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THESIS

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RÉSUMÉ

L'esprit d'entreprenariat est le catalyseur de l'économie libanaise. Il est connu que le Libanais est né « entrepreneur ». Nous tenterons, à travers notre recherche, de trouver les éléments qui animent toute intention de démarrer une entreprise au Liban, et plus particulièrement chez les étudiants(es) en ingénierie et en gestion. En outre, cette recherche identifie aussi les attributs communs chez ces étudiants(es), et essaye de trouver quels sont les facteurs qui puissent entraver ou encourager un comportement entrepreneurial.

Particulièrement, notre travail décèle le niveau de l'intention entrepreneuriale, s'il varie entre les hommes et les femmes, les étudiants en ingénierie et les étudiants en gestion, et à travers les différentes universités.

Cette étude nous a permis de déterminer un grand nombre de variables au niveau individuel, organisationnel et environnemental qui ont le potentiel de formuler une intention à s'engager dans les affaires. En conséquence, nous avons élaboré nos hypothèses et construit notre cadre conceptuel. Pour cela, 315 étudiants(es) en ingénierie et en gestion de deux universités différentes ont été sélectionnés.

Les résultats ont montré que cinq variables individuelles et une quant à l'organisation, ont caractérisé notre modèle final: l'Attitude d'Innovation, le Comportement de Type A, le Pouvoir, l'Accomplissement, le Sexe et le Soutien Familial. Par contre, les paramètres liés à l'environnement ne semblent pas peser dans la balance pour un étudiant au cours d'un processus décisif pour s'engager ou ne pas s'engager dans les affaires au futur.
En fait, les entraves les plus importantes sont l'indisponibilité de fonds et les risques liés au pays, ainsi que les facteurs motivant, dont la rentabilité et le développement personnel. Les étudiants(es) en ingénierie et en gestion ont montré un empressement important à s'aventurer, à entreprendre, mais ceux en ingénierie, à la différence des autres, pensent ne pas être assez préparés par les programmes d'études universitaires. Cependant, les hommes sont davantage reconnus que les femmes en tant qu'initiateurs en affaires.
À la fin, nous avons mentionné quelques limites concernant notre étude, et des suggestions pour une future recherche.

SUMMARY

Entrepreneurship is the catalyst of the Lebanese economy. They say "the Lebanese is a born entrepreneur". This research attempts to find the distinguishing determinants behind the intention to create an enterprise in Lebanon particularly amongst engineering and business students. Consequently, this paper examines whether common attributes are identified amongst these students and what are the perceived factors that might inhibit or encourage such entrepreneurial behavior.

Also, this work identifies if the level of entrepreneurial intention varies between males and females, engineering and business students or across different universities.

The literature review has permitted us to determine a large number of individual, organizational and environmental variables that have the potential of formulating an intention to start-up a business in the future. Accordingly, we have built our conceptual framework and elaborated our hypotheses. Two universities and 315 business and engineering students were selected for this study.

Results showed that five individual and one organizational variables characterized our final model: Innovation attitude, Type A Behavior, Power, Achievement, Gender and Family Support. The environmental variables do not seem to have a high priority for the student during a decision process to start or not to start a business in the future.
The most important barriers are non-availability of funds and country risk; the two factors that motivate students the most are profitability and personal growth. Males are recognized more than females as business initiators. Both engineering and business students showed an important readiness to venture, but engineers unlike business students, did not think they were prepared enough by the universities' curriculum. At the end, we mention the limitations of this study and some suggestions for future research.

CHAPTER I

RESEARCH OVERVIEW

In this chapter, we introduce the reader to the subject of entrepreneurship in general, and explain how it is the driving force in any modern economy. Then, we explain the nature of entrepreneurial intentions that are aimed at creating a new venture or creating new values in existing ventures. After that, we examine the most important research in the field and enumerate the advantages of relevant studies.

Finally, we focus on the student's entrepreneurial behavior and we conclude with a brief history of Entrepreneurship in Lebanon.

1.1 INTRODUCTION

Entrepreneurship, the creation of new economic entities, is central to the evolution of organizations and economies (Aldrich, 1999). Entrepreneurial activity is a vital component of national economic growth and development because it encourages innovation, fosters job creation, and improves global competitiveness for both firms and entire countries (Bednarzik, 2000; Keister, 2000).

Reynolds considers that there are at least three ways that entrepreneurial activity can have consequences for a nation: the first one lies in the absolute scope of effort devoted to entrepreneurial initiatives, which by definition brings novelty, innovation and change, thus, enhancing national competitiveness; the second one is the impact on job creation through new start-up firms, and the third is the creation of new business entities (Reynolds, 2002). New business formation shapes the nature of social and economic stratification in an economy (Haltiwanger and Krizan, 1998).

Small and micro enterprises set up by independent, self-employed, owner-managers, make up the large majority of business entities in the western world. In the United States, small firms (mostly consisting of a single establishment with a maximum of 100 employees) constitute more than 90% of the entire business population (Kuratko and Hodgetts, 1998). In the European Union, micro enterprises (with less than 10 employees), small enterprises (with 10 to 49 employees), and medium-sized enterprises (with 50 to maximum 250 employees), collectively known as SME's, constitute 99.8% of all enterprises. More interesting is that 90% of SME's are micro enterprises, and the greatest concentration of SME's lies in Southern Europe, where we find a much larger concentration of family-owned business (Busuttil, Drake, Magri, Mallia, 1999).

New business formation is also a key potential path for upward social mobility. Entrepreneurship and self-employment enable individuals to accumulate wealth, to expand their social contacts, and to improve their social and economic standing (Bates, 1997). Consequently the families of entrepreneurs would also experience upward mobility, either immediately or over time. Many business owners, particularly those who create large firms, employ family members in their business ventures, and some pass on their businesses to their families, either during their lives or as a part of an inheritance (Keister 2000). As a result, the group of self-employed families will be able to accumulate great wealth and move to upper wealth classes through time. Not only direct families, but extended relatives and their respective children, would take advantage of the upward social mobility.

There is no doubt that the driving force in the modern economy for the past 10 years and the foreseeable future is entrepreneurship. Entrepreneurs are meeting the world's economic needs through the creation of thousands of new businesses each year. Job creation and economic growth have become the domain of the new ventures and the entrepreneurs who create them. Although entrepreneurship clearly has important social and economic consequences, we know little about the specific factors that lead to the creation of a new business. On the other hand, a great deal is known about the

characteristics of entrepreneurs and the motives that have urged them to set up a business venture.

Previous research has examined the importance of various demographic variables and personality traits focusing on entrepreneurs actually working in a business and has ignored persons who intend to start a new business (Mazzarol, Volery, Doss and Thein, 1999).

In order to gain a comprehensive picture of entrepreneurship (and of the barriers and triggers affecting start-ups), both groups must be studied. It's not sufficient if we only approach those who have fulfilled their objectives.

While new business start-up activities can be found in all nations, one can also detect multiple differences across nations in the rate of business start-ups. The proportion of adults involved in starting a new business in the United States, for example, is currently five times the proportion found in Sweden and ten times the proportion found in Japan (Reynolds, 2000).

To promote entrepreneurship, a big range of programs and services have been implemented to provide a better infrastructure for new ventures. Part of these initiatives, such as business plan competitions, education centers and chairs for entrepreneurship are targeted on students as future entrepreneurs (Luthje and Franke, 2003). Graduates in technical disciplines, more than others, are expected to start businesses in dynamic and innovative areas, thus promoting significant economic growth and increase in employment (Roberts, 1991). It is not clearly known whether contextual founding conditions or personality traits drive the student's career decision towards self-employment. In order to design effective programs, policy makers have to know which of these factors are decisive, (Scott and Twomey, 1988). If the willingness to set up a new business is mainly shaped by the founding related conditions, an improvement of these conditions would have an effect on the entrepreneurial intent. In this case, government policy makers need to increase their contribution to improve education, infrastructure,

and legal conditions to provide financial support for potential business founders. However, if the entrepreneurial intentions were inhibited due the student's personality, it is very hard to change the personality traits in the short term because they are comparatively stable; only university programs, training courses and cultural effects can help cultivate and bring to maturity the entrepreneurial tendencies of promising students.

The research reported in this paper attempts to answer the following question: What are the individual, organizational and environmental determinants of entrepreneurial intentions among Lebanese engineering and business students? What's the role of socio-cultural, political and economic contextual factors in developing entrepreneurial conditions, which in turn shape both the skills and motivation of future potential entrepreneurs?

The research will also contribute in identifying:

- The students predisposed to start-up a business
- The students that choose self-employment
- The students who pursue an employment status rather than owning a business or being self employed
- The entrepreneurial orientation among Engineering versus Business students, and whether discipline matters
- The perceived obstacles that potential entrepreneurs might face in trying to start-up a business
- The level of entrepreneurial intention varying across different universities
- The duration between graduation and the initiation of the entrepreneurial process
- The contribution of culture in shaping the Lebanese individual to engage in an entrepreneurial activity
- An effective program that policy makers in the government and universities could consider in order to promote entrepreneurship in Lebanon

1.2 ENTREPRENEURIAL INTENTIONS

1.2.1 Nature of Entrepreneurial Intentions

"Intentionality is a state of mind directing a person's attention (and therefore experience and action) toward a specific object (goal) or a path in order to achieve something (means)" (Bird, 1998). Considered as a psychological process, intention has been studied by different theorists. William James (1890/1950) interpreted will (i.e. intention) as an independent faculty of the mind, operating through a person's attention and consent to "let it be so" (Zeigarnik, 1927). Addressing the tension aspects of intention, showed that a person's intentions sustain value or effort despite interruptions. Other theorists have found that the process involves persistence, perseverance and courage (Bugental, 1980). Modern theorists describe intention as one variable within larger psychological models. Cognitive theorists (Fishbein and Ajzen, 1975) have demonstrated the importance that intentional elements, such as expectation, attention, and belief, have on behavioral outcomes. It is known that entrepreneurial intentions are aimed at either creating a new venture or creating new values in existing ventures (Katz and Gartner, 1986).

1.2.2 Research in the field

The widespread hopes that small and new firms will solve problems of unemployment and economic development have spurred academic interest in entrepreneurship, understood as the creation of new independent firms. The traditional research has emphasized psychological and non-psychological factors to explain who starts a new firm and why someone does.

Within the psychological factors, endless lists of entrepreneurial traits were suggested (Hornaday, 1982). Several human attributes such as the need for achievement

(Mc Clelland, 1961), desire for independence (Cromie, 1987), internal locus of control (Cromie and Johns, 1983) etc..., make up these traits. This approach is characterized by collecting data among entrepreneurs and thus focuses on ex-post situations. Gartner (1988; 1989) criticizes that these studies assume that the entrepreneur's traits, attitudes and beliefs do not change because of the experience itself. However, individuals seldom behave consistently in different times and situations and it is likely that the experience from the entrepreneurial event may affect the individual's behavior. It eventually turned out that this line of research was unable to give more than a small fraction of the answer to the question "what makes people found new firms?" (Davidson 1992; Gartner 1989; Low and Mac Millan, 1988). It has been argued that personal background characteristics have a more reliable influence on the decision to found one's own firm than psychological traits (Reynolds, 1991).

Due to the limited success of the trait approach, studies had to view firm creation in context. One way of doing this is to apply a more aggregate level of analysis and to look for national level variables that can explain variations in the rate of new firm formation (Aldrich and Wiedenmayer, 1993). This approach has proven successful in many studies. Regardless of this success the need for disaggregate level understanding of the process leading to new firm formation remained. Therefore, researchers like Bird, Shapero and Sokol have tried to develop integrated explanatory models that take into account the general psychological characteristics of prospective entrepreneurs and the domain-specific attitudes, personal background, and situational variables (Bird, 1993; Shapero and Sokol, 1982).

A great deal of this approach focuses on the pre-decision stage (i.e. interest, entrepreneurial career preference) (Bird, 1988; Krueger, 1993). Given that the decision to found a firm can be taken as reasoned action or planned behavior, the relationship between intentions and actual behavior should be very strong (Ajzen, 1991; Sheppard, Hartwick and Warshaw, 1988).

On the other hand, the entrepreneurial event approach stresses that intentions are a strong predictor of individual behavior such as starting a new firm (Ajzen, 1991; Krueger, 1993). We don't start a business as a reflex, but rather respond to the conditions around us by starting a new venture. Yet, we think about it first, analyze the cues from the environment around us and set about constructing the perceived opportunity into a suitable business proposition.

Finally, in psychological studies, intentions have proven the best predictor of planned behavior especially when that behavior is rare, hard to observe, or involves unpredictable time lags (Krueger, Reilly and Carsrud, 2000). Thus, entrepreneurship is exactly the type of planned behavior (Bird and Katz, 1988) for which intention models are ideally suited. If intention models prove useful in understanding business venture formation intentions, they offer a robust theoretical framework for understanding and prediction.

Empirically, we know that predicting entrepreneurial activities only on situational (such as employment status) or personal (such as personality traits) factors result in small explanatory power and predictive validity. Intention models have the potential to increase our ability to understand and predict entrepreneurial activity.

1.2.3 Advantages of Relevant Studies

The study of entrepreneurial intentions has some distinctive advantages over comparisons between potential entrepreneurs and non-entrepreneurs.

Firstly, "the intentions based approach" offers testable, theory-driven models of how exogenous factors (demographics, traits, current situation) affect entrepreneurial attitudes, intentions and behavior (Krueger and Carsrud, 1993).

Secondly, the approach minimizes the chances of identifying as determinants of entrepreneurial behavior, the individual characteristics that might develop as a consequence of running one's own business. It sheds light on the characteristics that lead people to found their own firms.

Thirdly, for the purpose of policy decisions targeted at stimulating new firm formation, it is more useful to know what kind of individuals are intending, therefore planning to go into business for themselves, than to learn about the characteristics of those who already are entrepreneurs and own their companies. Investigating the antecedents of entrepreneurial intentions may also contribute in helping policy makers to find measures that are effective in turning potential entrepreneurs into real business founders.

1.3 STUDENTS' ENTREPRENEURIAL BEHAVIOR

Undergraduates and graduates often consider the founding of a company as an attractive alternative compared to salaried employment. This choice may be based on their inclination to feel disappointed with conventional jobs in large companies, which in turn increases the desirability of self-employment (Kolvereid, 1996). Advantages related to employment, such as job security and reward for loyalty, have lost their attraction (Jackson and Vitberg, 1987), compared to work values such as independence, challenge, and self-realization, usually connected with self-employment.

Several studies supported the above; 25% of English students interviewed regarding their future occupation, indicated that they had a business idea, and 41% were interested in self-employment (Luthje and Franke, 2003). After having conducted a survey among college students, Karr (1985) found that 46% consider that owning a business is a good opportunity in the future. Moreover, a large number of MBA Students from top business schools in the USA showed enthusiasm for entrepreneurship. 44% of

the students chose as a long-term career goal, "to become an independent entrepreneur" (Sanholtz, 1990).

Other statistics support a low percentage of graduates starting a new business. Although Kolvereid (1996) found among a sample of Norwegian business students that 43% preferred to be self-employed and only 7% estimated a 75% or higher percentage chance that they will become entrepreneurs. Brown (1990) reported at the beginning of the nineties that among English alumni, between 2 and 2.5% started a business right after graduation.

As a result, a difference is detected between the attitude towards entrepreneurship and the entrepreneurial intent and actual behavior. The question that comes to mind; which factors contribute in determining the career of students and which factors may inhibit the students from translating their intentions into actions?

Many models have been suggested by multiple researchers in order to answer this question. The psychological models try to identify the personality characteristics that distinguish business founders from non-entrepreneurs (Shaver and Scott, 1991). This research field has identified a number of significant traits (risk taking propensity, need for achievement, locus of control, etc...).

The sociological theories investigate a number of social, cultural and economic contextual variables. Factors such as societal attitudes towards entrepreneurship, availability of funds and existence of business incubators were studied (Shapero, 1984). Other researchers proposed models which include interactions between personality and environmental factors (Greenberger and Sexton, 1988).

All the above studies are complementary, and based on samples from professionals in the field. They were either entrepreneurs that founded a company or employees in organizations. Results cannot be generalized to include students and

graduates (Luthje and Frank, 2003). The population is not similar; they may differ in a variety of entrepreneurial characteristics.

A multi-country survey with MBA students showed social status is a good predictor of interest in starting a business (Begley, 1997). Another survey of MBA students was conducted at a large U.S college; it concluded that the number of management courses the students had taken, were positively related to entrepreneurial intention (Chen, 1998). Furthermore, between students in other Business and Economics majors, and Small Business students, Sagic and Elizur (1999) found that the latter have a higher need for achievement which in turn has a positive effect on the preparedness to found a company.

However, Hostager and Decker (1999) did not find a relationship between education and achievement motivation. Whitlock and Masters (1996) found in a longitudinal study of 89 business students that after four years of business courses, the interest in pursing self-employment seemed to dissipate.

Based on the above, it will be promising to construct a model in which the university Business major (potential future entrepreneur) will be investigated within the context of his/her environment. Therefore, both individual traits (with emphasis on cultural dimensions and personal values) and contextual factors will be integrated in a comprehensive model of entrepreneurial intent.

1.4 ENTREPRENEURSHIP IN LEBANON

One must acknowledge that any analysis of the Lebanese economy and the role of entrepreneurs in boosting its output are affected by the scarcity of reliable data. The last official national income statistics that are available are those for 1975. Since then, published statistics are often questionable. However, dealing with various indicators, can

help in providing an understanding of the Lebanese economy and entrepreneurship in Lebanon (Al-Khalil, 1992).

1.4.1 The Lebanese Economy and the Crucial Role of the Entrepreneurs

Lebanon is a small, service-based and open economy. It is one of the freest and most liberal economies in the Middle East. The main growth sectors are tourism, banking, real estate, and trade-related services. There are no restrictions on foreign exchange or capital movement or on foreign investment, and bank secrecy is strictly enforced. Lebanon benefits from its large active and entrepreneurial Diaspora (Mena, 2008).

Lebanon is not rich in natural resources. Its only large deposits are of limestone, and high quality sand used for making glass. It also has small amounts of iron ore, asphalt, coal, and phosphates. Lebanon's major natural resource has always been its dense forests (Cedar and Cypress). In the old days, the Lebanese (at that time the Phoenicians) used to export timber and import gold. The most important exports now are fruit and vegetables, building materials, textiles and clothing, and electrical equipment. The major imports are crude petroleum, chemicals, textiles, machinery, automobiles, household appliances, and food (Cahill, 1987).

The following section is divided into 3 sub-sections which represent 3 different periods of Lebanese history:

1940 - 1975

A central feature that characterized the Lebanese economy at the early 1940s was the high ratio of investment to GDP (gross domestic product). This ratio had rarely fallen below 20 percent throughout the 1950s and 1960s. This figure translated in an annual real

GDP growth of about 8 percent, a typical rate of the Lebanese economy for much of the prewar period. On the other hand, services accounted for more than 60 percent of Lebanon's GDP, the industrial sector accounted for 15 percent of GDP, and high labor productivity indices were observed in the manufacturing and agriculture (Kubursi, 1999).

Also, there was a young and growing population investing heavily in education and supplying a dynamic, well trained, and highly motivated labor force (Saidi, 1986). Lebanon had the highest adult literacy rate (73.5 percent) in the Arab region. This skilled manpower was supplemented by a large pool of cheap semiskilled Palestinian workers trained by UNRWA at little or no cost to Lebanon, and a large group of unskilled seasonal immigrant Arab workers particularly Syrians (Kubursi, 1999). In the early 1970s the foreign labor force accounted for 30 percent of the national labor force (Khalaf and Rimlinger, 1982).

The Lebanese economy grew as a natural outcome of an extensive intersection of interests of basically Maronite bureaucrats and Sunni trading families. The former group was interested in developing and securing a stable source of public finance (custom duties); the latter group saw his interests best served by a government maintaining a policy environment favorable to free trade. The intersection of interest translated in building an extensive infrastructure of trade routes and limiting the investments in commodity producing sectors (Kubursi, 1999).

On the other hand, this implicit contract called for the blocked minorities such as the Orthodox, Protestants, Shi'ites, Druze, Armenians and Palestinians to seek influence and protection through economic success thus, giving rise to a class of local entrepreneurs and competent professionals (Kubursi, 1999).

Another feature of Lebanese development before the war was the fact that Lebanon had a jump start in economic and social development over neighboring countries rich in resources but poor in skills, world contacts and experience. The advanced educational system in Lebanon and the close connections the Lebanese had

kept with the west allowed the Lebanese to act as middlemen between the Arab countries and the west (Kubursi, 1999).

Also, the Lebanese economy took advantage of economic expansion in the Gulf in various ways: Lebanon provided skilled professionals to the Gulf countries, built a solid banking sector which attracted Arab capital, and developed a rapidly flourishing tourism sector (Al-Khalil, 1992).

Also, the Palestinian sub-economy contributed to Lebanon's prosperity in injecting into the Lebanese economy a good amount of operating and capital money. This sub-economy was estimated to have pumped over $ 4 billion annually (Kubursi, 1999).

1975 – 1990

The eruption of the war in 1975 undermined most of these favorable factors. In addition, it created very negative mechanism and attitudes that are proving to be difficult to correct. The war eroded the physical and economic well-being of Lebanon with tremendous destruction of human life and property.

The most long-lasting damage was the profuse brain drain. Professionals and skilled workers emigrated; losses in productivity were experienced and incomes of the unskilled plunged. A total of 740,000 people left Lebanon between 1975 and 1988 (Labaki, 1990). Another 240,000 are believed to have emigrated in 1989. The educational system suffered too, as experienced teachers left the system and school days were cut short. Manufacturing and extractive industries lost 57 percent, as did transportation (63.2 percent), and commerce (53.5 percent). All these losses involved above average employment losses between 1974 and 1977 (Khalaf and Rimlinger, 1982). Service related activities weathered the difficulties with more resilience, losing only 23.6 percent.

Despite the eruption of hostilities in 1975 and the inability of the government to control the country and collect taxes, which resulted in the running up of high budget deficits, the Lebanese economy managed to survive with a stable currency and only moderate inflation rates. The paychecks of Lebanese working abroad, especially in the Gulf countries, the inflow of capital to support the various war factions (particularly the PLO) contributed to a continuously positive balance of payments (Al-Khalil, 1992).

The Israeli invasions in 1982 marked a major turning point. The destruction of the country's infrastructure, the huge damage inflicted on all the sectors, the loss of human resources, and the uprooting of the PLO's administrative and military apparatus had major negative effects on the Lebanese economy (Al-khalil, 1992).

The post-1982 period was extremely severe. While GDP in 1980 was estimated to have declined 40 percent compared with 1974, in 1985 estimated GDP reached its lowest level. The typically high investment to GDP ratio of 20 percent before the war declined to less than 3 percent by 1985 (Saidi, 1986) and to even lower magnitudes in 1989. The Lebanese simply consumed their capital. To make matters even worse, the bankrupt government diverted funds away from foreign reserves to finance purchases a considerable amount of weapons from foreign countries (Kubursi, 1999).

Deficits were primarily financed by borrowing from the Central Bank; this increased the money supply, raised inflation, depreciated the Lebanese pound, increased the government's cost of operation, and so further raised the deficit. The economy was caught in a vicious circle of deficits, inflation and depreciation. In addition, the flight from the Lebanese pound into dollars further depreciated the value of the pound. The Lebanese pound depreciated sharply from LBP 2.2 for $ 1 in the early 1970s to a low LBP 2200, in the summer of 1992 (Kubursi, 1999).

From a relatively advanced and prospering economy in the 1970s, Lebanon was on the brink of total collapse in the late 1980s. It is miraculous that it did not implode the way most had expected. A great deal of credit goes to the resilient Lebanese people and

their ability to recover rapidly. Lebanese are by nature a hard working people and they have built their economy into one of the richest in the Middle East. If it was destroyed, they can build it again. It is possible for a Lebanese born in poverty to become prosperous and successful (Cahill, 1987).

During the crisis, the Lebanese capitalized on their troubles and kept the economy going. When electricity was cut, a number of local entrepreneurs started their own generators; small shops selling all sorts of goods sprang up on every corner. Many Lebanese worked in their homes after the war has destroyed office buildings and industrial areas. The fixed telecommunication installation was replaced by multiple temporary mobile telephone stations (wires were dispatched all over the place and in some areas they are still there).

Many families fled the cities to the comfort and security of their villages, where they grew their own food and bartered their service. Villages and small towns produced specialty items: hand-tied rugs, copper trays and utensils, hand-loomed silks, cutlery and sculptured items (Cahill, 1987). Equally, important number of Lebanese left the country and emigrated to where jobs could be found. They injected Lebanon with remittances and reduced the social costs of unemployment. The extensive depreciation of the Lebanese pound acted as a shock absorber, and played a big role in the adjustment process. Imports declined, wages were decreased, debt was depreciated, rents were almost eliminated, and barter increased and Lebanese export and assets became cheaper (Kubursi, 1999).

The banking sector also witnessed increasing activity between 1986 and 1990, this being enhanced to a large extent by massive foreign exchange operations. Although the tertiary sector continued to be dominated by commercial and financial services, new services emerged and registered progress. Among these services, there were advertising, consulting, and computer software development. These activities had the potential as export services to the Arab countries (Al-Khalil, 1992).

1990 - Onward

In 1990, when the war ended and the Hariri government embarked on its ambitious reconstruction program, the government coffers were almost empty. There was no choice but to borrow. Through the whole war Lebanon had almost no foreign debts. Without the encumbrance of past debts, Lebanon found it easy to borrow on international financial markets. The foreign debt grew rapidly from $ 150 million in 1992 to over $ 2.7 billion in 1998. The combined external and internal debt reached $ 17 billion in 1998. The difficulties started to arise from the debt service payments; these were too large, the level is determined by the size of the debt and also by the interest payments made on it. Unfortunately, servicing the debt implicated high deficit that raised the debt even more. It is hard to break away from this vicious circle without higher economic growth, higher government revenues, and lower interest payments (Kubursi, 1999).

In addition, with the Lebanese pound exchange value fixed in terms of the U.S dollar, the rates paid on the Lebanese pound treasury bills exceeded by far the returns on comparable dollar accounts, which distorted investment, and compromised production. Higher interest rates were required to attract foreign capital, sustain domestic liquidity, finance the government deficits, and stabilize the foreign exchange value of the Lebanese pound. But they also increased the deficits, the borrowing requirements of the government, and the diversion of liquidity toward government bills and away from trade industrial / commercial credits (Kubursi, 1999).

Large budget deficits (33 percent of GDP in 1990) financed public spending; annual inflation soared to 120 percent in 1992, and the Lebanese pound depreciated to LBP 2,400 to $ 1 in September 1992. Dollarization of the economy was extensive, with roughly 70 percent of total deposits held in U.S dollars.

Between 1992 and 1995, Lebanon's economy was stimulated by the government's $ 60 billion reconstruction drive and witnessed an annual GDP growth averaging 7 percent, as well as a rapid growth of the country's capital and current expenditure.

The macro-economic stabilization program has produced some major successes. The inflation rate declined from 120 percent per year in 1992 to less than 7 percent in 1997, and the Lebanese pound reversed its downward slide, but all of that at a high price. Growth has slowed measurably. Real GDP growth rates have slumped from 13.3 percent in 1992 to 4 percent in 1996 and 1997, to 3 percent in 1998, to less than 1 percent in 1999, while inflation fell from 120 percent in 1992 to 1.4 percent in 1999 (Kubursi, 1999).

1999 and the first half of 2000 witnessed a further slowdown in economic growth and aggregate demand contraction, but driven by strong exports and tourism, as well as a recovery in construction activity, the economy experienced a progress in monetary conditions that allowed interest rates to decline further, and the fiscal situation to slow promising signals (Economic Forum, 2004).

With the government's commitment to exercise tight fiscal discipline, Lebanon's economic health has started to recover. After growing 2 percent in 2002, Lebanon's economy expanded by 3 percent in 2003 and by approximately 4.5 percent in 2004.

Since Lebanon does not control the foreign exchange and does not restrict the movements on capital and profits, the Gulf co-operation council (GCC) has raised their funds; they found it safer to put part of their investment portfolio in Lebanon. Many Arab investors acquired properties in Lebanon such as hotels, car parks, retail stores, shopping malls etc... (Economic Forum, 2004). Evidently, Lebanon is one of the major recipients of foreign direct investment (FDI) in the Middle East (an average of $ 265 million in 2000-2002).

On the other hand, many Lebanese reside in foreign countries. A large number of these Lebanese have established their own businesses and maintain close ties with their home country. Some of them help Lebanese companies develop overseas markets; others source goods from overseas suppliers including cooperating with Lebanese companies to re-export goods to the international markets (Economic Forum, 2004).

Furthermore, the service sector is the lifeline of Lebanon's economy. In 2002, services accounted for two-thirds of Lebanon's GDP, while industry and agriculture shares were 21 percent and 12 percent respectively. The growth momentum is seen in tourism, finance, real estate and trade-related services.

Tourism arrival in Lebanon rose by 51 percent from 1999 to 2003. It is attributed mainly to an increase in Arab tourists who preferred to get away from the anti-Arab sentiments in many overseas countries and from the appreciation of the Euro currency.

Lebanon's banking secrecy laws offered incentives for overseas investors to deposit funds in Lebanon. This industry employs over 15,000 people; the government is making efforts to further strengthen Lebanon's status as the region's financial hub.

Lebanon has an educated, multilingual and commercial-minded workforce. It is used to being a trading center, serving the Levant markets on the back of its strategic location and ties with overseas Lebanese. Also, the Lebanese are particularly known for their creativity in sales and promotion. Many advertising companies prefer Lebanese for conducting marketing and promotion activities for them (Economic Forum, 2004).

The Lebanese economy is estimated to have grown slightly by 1.5 percent by the end of 2007 to a record GDP of $ 19.3 bn which is still below the 2005 record level. Similarly, nominal GDP is estimated to have grown by 5.4 percent at the end of 2007 to reach a record of $ 23 bn. The slowdown of the GDP growth has been linked to the political unrest, the inflation, the trade deficit, and the decreased tourism which slowed down domestic demand. In addition, the political tensions during 2006 (particularly the July war with Israel) had a negative impact. The deficit increased by 39.1 percent to LBP 3.9 trillion by the end of 2006. At the beginning of 2007, budget deficit declined slightly by 1.4 percent to reach LBP 3.8 trillion. Revenues were growing at a faster rate than the expenditures, hinting for a brighter economy if things continued to be held on a constant pace. The budget deficit stood at LBP 3 trillion at the end of September 2008. Two major

components of revenues were witnessed during this period; the Capital and Financial account and the increased inflow of investments into Lebanon (Mena, 2008).

We expect inflation rate to decrease due to the global slowdown that helped decrease oil and food prices which can be a major factor. Also, since the Lebanese Pound is pegged to the U.S Dollar and as the American economy slowly recovers, the Dollar will gain more purchasing power, thus decreasing the costs of imports to Lebanon which will be translated into a decrease in the imported inflation (Mena, 2008).

1.4.2 Small and Medium Enterprises

The lack of raw materials for industry, and the complete dependency on Arab countries for oil have made it difficult for the Lebanese to engage in substantial industrial activity. Mainly, industry in Lebanon is limited to small businesses concerned with reassembling and packaging imported parts (UNDP, 2009). Therefore, economic growth in Lebanon depends on those businesses' ability to ensure sustainable profitability.

Furthermore, other reasons were behind the booming of local small and medium enterprises: 1.Lack of competition from global companies, 2. Decreased taxes and government control, 3. Devastation of large companies during the war (1975-1990) (UNDP, 2002), 4.Depreciation of Lebanese Pound and 5. Decline in labor cost that led to production at a low cost (ESCWA, 2001).

Recent years have been characterized by a strong support for small and medium enterprises. Development agencies such as the United Nations Development Program (UNDP) are amongst the keenest advocates for small enterprise, and identify entrepreneurs as a key client group (ESCWA, 2001 and 2004).

Small and medium-size enterprises (SMEs) which are part of the formal economy play a considerable role in contributing to a country's economic growth and are the

backbone of strong economies (ESCWA, 2001 and 2004). In their report, the Economic and Social Commission for Western Asia (ESCWA) region published the figures listed in Table 1.1.

97 percent of the total private business in Lebanon is conducted by SMEs and 67 percent of the total employees are recruited by these SMEs.

Table 1.1
ESCWA Countries and their Contribution in Private Business and Employment

Country	Percentage of Total Private Business	Percentage Contribution of SMEs to Total Employment
Bahrain	97	31
Egypt	76	11
Jordan	85	29
Lebanon	97	67
Syria	98	91

Source: ESCWA Report (2001).

1.4.2.1 SMEs by Size and Sector

The Ministry of Industry conducted in 1998 with the collaboration of GTZ from Germany an industrial census involving 3,000 Lebanese industrial units. GTZ's expertise in the field, enhanced by the contributions of specialists from international organizations such as UNIDO and the ESCWA, was very valuable. The industrial survey yielded the following figures and results (government of Lebanon, 1998):

- Around 22,000 industrial firms operate in Lebanon. This total excludes water, power, and construction sectors.

- 88.6 percent of the industrial firms belong to 8 major industrial branches:

  1. Food and beverage (20.3%)
  2. Metal products (16.1%)
  3. Non-Metallic products (11.5%)
  4. Furniture and assimilated products (10.7%)
  5. Clothing and fur (10.3%)
  6. Wood products - excluding furniture (10.2%)
  7. Leather and tanning (5.9%)
  8. Textiles (3.7%)

- The majority of industrial firms are small establishments, and the average number of workers per company is 5.2.
- More than 95 percent of the industrial firms employ less than 10 workers, around 4 percent of the industrial firms employ between 10 and 100 workers, while the remaining 1 percent has more than 100 workers.

1.4.2.2 Type of SMEs

The relationship between traditions and industrial development or economic growth has always been subject to controversial considerations. It has been argued, that extended kinship system renders family firms incompatible with the logic of industrialization as a rational process. In the case of Lebanon, traditional norms in general and family firms exert a supportive influence on industrial growth; changing the traditional management style remains a painful process, because it necessitates an important disruption and change in the socioeconomic institutions (Khalaf, 1987).

The majority of business entities are small family-owned firms, they face many challenges to upgrade their management structure, human resources and operational procedures, but they remain the spine of the Lebanese entrepreneurial society.

In his extensive study of ten family firms, Khalaf stressed that in time of uncertainty, the Lebanese businessmen can find some sort of refuge and security in the traditional forms of social organization; and in the absence of powerful labor movement and consistent policy of government control, family firms have performed some vital functions, and appeared to be compatible with the demand of industrialization (Khalaf, 1987).

Furthermore, Khalaf found that the Lebanese owner-managers believe that "ownership creates a sense of responsibility". After long experience, they think that their competent employees, who are also influenced by a sense of kinship loyalty, seem to have a higher degree of involvement in business of the enterprise. Also, they believe that patrimonial groups usually maintain personal relationships with their employees, and rely upon such relationships to ensure discipline and work productivity (Khalaf, 1987).

It appeared to Khalaf, that the authority in Lebanese firms is not concentrated in the hands of one single individual, but is shared by the members of the patrimonial group. At least the manager favors the "horizontal" sharing of authority.

Finally, at times when the availability of funds for investment is scarce, family is a handy source of initial capital for investment.

1.4.2.3 New SMEs Registry

Companies that seek to conduct business in Lebanon must register with the Commercial Register in the district where they are located, as well as with the Patent of the Ministry of National Economy and Commerce. As seen in Table 1.1., 97 percent of the total private businesses in Lebanon, fit the specifications of an SME.

Table 1.2 displays the Lebanese annual registration for 9 consecutive years (1995-2003). The number of registered companies per year is relatively high considering that

there are 660,000 households and 220,000 enterprises in Lebanon (three household per business enterprise); definitely, Lebanon witnesses a quite high number of entrepreneurial activities.

Table 1.2

New Companies Registered (1995-2003)

Year	Number of New Companies Registered
1995	4983
1996	5014
1997	4872
1998	4969
1999	4179
2000	3394
2001	4296
2002	5404
2003	4846

Source: Government of Lebanon Ministry of Industry (2003).

1.4.2.4 Challenges Facing SMEs

The list in Table 1.3 is supported by the 2006 survey conducted by the SME Support Program at the Lebanese ministry of Economy and Trade. The survey covers five industrial sectors (chemicals and man-made fibers, pulp and paper, rubber and plastics, machinery and equipment, and electrical machinery), which cover 20 percent of Lebanese merchandise export; the survey covers as well the media and advertisement sector. While biased towards energy-intensive industries, the survey remains informative of the current situation facing SMEs in Lebanon. The table illustrates the challenges identified with their respective severity ranking. The ranking is based on 1 to 4 range, with 4 representing the greatest level of severity perceived (ESCWA, 2007).

Table 1.3

Challenges Facing SMEs in Lebanon

Challenge	Severity Rank
Macroeconomic stability	3.66
Security and political stability	3.64
Cost of electricity	3.12
Cost of financing	2.92
Collateral requirements for financing	2.71
Cost of supplies and raw materials	2.58
Local competition	2.48
Access to information on export markets	2.45
Access to industry-specific information	2.10
Access to information on local markets	2.03
Access to information on procedures and legislation	2.02
Access to financial support services	2.00

Source: ESCWA (2007)

1.4.3 Business Forms and Structure

The Lebanese Code of Commerce provides for the following types of business associations: unlimited partnerships, limited partnerships, co-partnerships, joint stock companies, limited partnerships by shares, limited liability companies and companies with variable capital.

The government encourages cooperation between foreign and Lebanese companies. Unlike many countries in the region, Lebanese law does not require joint ventures to have specific percentage of Lebanese ownership (Ali, 2004).

1.4.3.1 Joint Stock Company (Société Anonyme Libanaise (S.A.L))

Founding members	:	At least three.
Minimum capital	:	LBP 30,000,000 (approximately $ 20,000).
Board of directors	:	3-12 members. Majority must be Lebanese.
Specifications	:	- Company's head office must be in Lebanon. - The foreign-national chairman must have a work permit. - No minimum requirements for the percentage of Lebanese ownership (real estate companies are an exception).
Liabilities	:	10 percent tax on net profit and 5 percent tax on the distribution of dividends.

1.4.3.2 Limited Liability Partnership Company (Société à Responsabilité Limitéé (S.A.R.L))

Founding members	:	At least 3 of any nationality.
Minimum capital	:	LBP 5,000,000 (approximately $ 3,333).
Manager	:	Can be a non partner.
Specifications	:	- An auditor is needed if the capital exceeds LBP 30,000,000. - If the number of partners exceeds (30), the company must change its registration to a Joint Stock Company. - The company must be registered in the commercial register as well as with the patent office.
Liabilities	:	10 percent on net profits.

1.4.3.3 Holding Company

Specifications	: - In the form of a joint stock holding company. The board must consist of at least 2 Lebanese nationals. - The company must be registered.
Liabilities	: - Capital gain tax 2-6 percent. - No income tax.
Activities	: - Limited.

1.4.3.4 Offshore Company

Specifications	: - In the form of a joint stock company with at least 2 Lebanese nationals on the board. - The company must be registered.
Liabilities	: Annual flat tax LBP 1,000,000 (approximately $ 666). Salaries and wages are subject to 2-10 percent tax.
Activities	: Limited.

1.4.3.5 Branch or Representative Office

Specifications	: - Foreign company doing business in Lebanon. - May not engage in any commercial activity. - Expenses must be covered by foreign transfer. - Offices must be registered.
Liabilities	: Corporate and personal income tax.

1.4.3.6 Real Estate Company

Specifications	: - Subject to government regulations. - May purchase real estate under certain conditions.

1.4.3.7 Insurance Company

Specifications : - In the form of joint stock companies.

- Minimum capital LBP 300,000,000 (approximately $ 200,000).Basic reserves LBP 90,000,000 (approximately $ 60,000). Cautionary reserves LBP 750,000,000 (approximately $ 500,000).
- Requires special authorization from the Ministry of economy.

1.4.3.8 Banks

Specifications : - In the form of joint stock companies.

- Requires prior authorization from the Central Bank.
- One-third of all bank shares must be held by Lebanese nationals or Lebanese companies.

1.4.3.9 Commercial Representation

Specifications : - Foreign company engages the services of a Lebanese representative.

- Must meet certain conditions.
- In limited liability partnerships, the majority of the partners must be Lebanese nationals, the majority of the capital must be Lebanese-owned and the authorized signatory should be Lebanese.
- In joint stock companies, the majority of shares should be owned by Lebanese nationals and two-thirds of the board members, as well as the general manager should be Lebanese.

1.4.4 Sources of Financing

Following is a list of a number of banks and many establishments that grant loans for starting an SME in Lebanon. The list has been compiled by Chakour (2003):

- **Investment Banks**

- Audi Investment Bank
- BLOM Investment Bank
- Mediterranean Sea Investment Bank
- Lebanese Credit Investment Bank
- Financing Investment Bank

- **Financial Institutions**

Most known ones are:

- Middle East Capital Group (MECG)
- Lebanon Invest
- FIDUS
- AFC

- **Government Institution that takes in charge 7 percent of interest rates**

- **Institution for supporting small and medium sized loans "KAFALAT"**

- **Specialized Banks with Financing Programs**

- Jamal Trust Bank
- Byblos Bank
- Baraka Bank

- **Lebanon Holdings**

- **European Community Investment Partners (ECIP)**

- **European Investment Bank Loans (EIB)**
- **Med-Invest**
- **IPSOFACTO (Factoring Company)**

As we have seen, there is nothing magical or miraculous about the sources of the past economic success and growth in Lebanon. The Lebanese entrepreneur played a crucial role in keeping the economy going. Since there are no major natural resources in Lebanon, human resources are the major assets of the country; the Lebanese comparative advantage has always been its people and its ingenuity.

When asked if the Lebanese are more entrepreneurial than most, Ken Morse answered in a workshop on entrepreneurship in the American University of Beirut:

"... It's part of the Lebanese culture, but so is the spirit of doing business. Lebanese companies are sharp and competitive. The sons and daughters of Lebanese businesspeople think about building businesses at an earlier age...

They're more ambitious and they're better at selling. Sales skills combined with ambition usually equal success...

The Lebanese do excel at looking outside. The domestic market is small. And they have other advantages. One advantage, believe it or not, is that Lebanon does not have the oil curse. The oil curse leads to high prices and crowding out of other elements of the entrepreneurial ecosystem. So it's a good thing for entrepreneurship in Lebanon. Some of the other benefits are Lebanon's been thinking about entrepreneurship longer, has a longer tradition. And a not so well-recognized benefit for entrepreneurship in Lebanon is the fact that there is a large diaspora. People come from abroad to help entrepreneurs and go back. The Lebanese diaspora in Europe and in North America sometimes provide a little money for entrepreneurs, for companies to get started, but much more importantly, they provide advice and access to markets..."(Morse, 2009).

1.4.5 From Trading Mentality to Entrepreneurial Spirit

We will end section 1.4 by formulating our expectations on the future development of entrepreneurship in Lebanon. The phenomenon has been well explained and interpreted by Yusif Sayigh in his book: the entrepreneurs of Lebanon (Sayigh, 1962).

According to Sayigh, Lebanon has, from the beginning of time, never lacked of businessmen. From the days of the Phoenicians to the present, the Lebanese made their living by buying and selling, exchanging currencies, exporting and importing serving as middlemen. Throughout its history, Lebanon has always been at a crossroads among civilizations and a bridge between East and West. As such, it was naturally open to all cultures and languages and long managed to serve as a busy commercial and cultural center of the Middle East.

Moreover, Sayigh (1962) believes that the Lebanese history of give-and-take with other cultures has carried them throughout the Middle East, around the Mediterranean, down the east and west coasts of Africa, across Asia, and in latter times, to the Americas. The Phoenicians' skill in navigation and seafaring was an essential constituent to establish the Phoenicians commercial supremacy. In addition, what has brought Lebanon to its present position seems destined also to the severe limitation through political and economic changes in the surrounding Arab world.

In summary, the above conditions and the freedom of action from rulers and government intervention fueled the Lebanese to develop an entrepreneurial personality. Despite the 17 years of civil war, the occupation and the difficulties that Lebanon passed through, the people's vitality and entrepreneurial spirit contributed in large part to control and manage the economic situation.

As per Sayigh, Lebanon's future development may require structural and cultural changes in order to decrease the tendency of Lebanon becoming a trading community. Dr. Sayigh is concerned with the role of the entrepreneur in influencing these changes. For this purpose, it is not sufficient to identify entrepreneur with businessman (trader or middle-man), which is typical to the Lebanese scene. He borrows Schumpeter's conception of entrepreneur as innovator, the initiator of new combination of resources, or the agent who adds value on new products. In order to merit the title and to justify an important role as an agent of economic development, the entrepreneur must introduce something new to the economy not to take from elsewhere and shapes what he takes to suit the local scene (Sayigh, 1962).

How are these people shaped? Dr Sayigh thinks that in many ways the environment is ideal for the preparation of this kind of talent that has emerged in large numbers lately. The Lebanese move around the world, through the trading activities and business encounters, come in touch frequently with products and processes that have possibilities of adaptation to Lebanon's or other country's production and use. It is not easy to convert the trading mentality to other forms of business activity, especially when the educational practices and the cultural environment do not help in generating other than trading pursuits sufficiently; nevertheless, more entrepreneurs are emerging mainly in the fashion, the Jewelry and the hospitality industries (Sayigh, 1962).

On the other hand, the economic policies in Lebanon are very suited to money-making. Taxes are low and easily evaded; government regulations are not very tight. The relatively inefficient and corrupt government is a blessing for private enterprises, and though the scale of tariff duties is very favorable, businessmen suffer from the government reluctancy in 1- enforcing the law, 2- minimizing the bureaucracy, and applying easy procedures in the chamber of commerce (Sayigh, 1962).

Dr Sayigh maintains that developing countries in Asia and the rest of the Middle-East tend to rely enormously on public initiative to push the wheels of expansion into motion; the share of the public sector in total capital formation is large and governments shape through their policies the character of private investment. On the other hand, in Lebanon only the entrepreneurial spirit and the individual effort are the principal economic agents of change. Definitely, the government is not capable of taking active role in the development process (Sayigh, 1962).

However, development can still take place. The private sector is very active and can substitute what the public sector lacks to offer. Dr Sayigh has examined the phenomenon of entrepreneurship in the field of manufacture, agriculture, banking and certain of the service industries. Starting with 8000 firms, he has narrowed the number down to nearly 207, which meet his definitions of entrepreneurship and in which leaders have demonstrated capacity to innovate.

In conclusion, the Lebanese are expected to improve their government policies and include entrepreneurship courses in their universities curriculum in order to accelerate the flow of entrepreneurial talent amongst the new generation; and that will move the country forward toward a process of self-sustaining growth.

After we have made an introduction to the subject of entrepreneurship, and explained the nature of entrepreneurial intentions, we propose to explore in the next chapter the variables that have a significant impact on the intention to start a business.

CHAPTER II

LITERATURE REVIEW

Having gone through the research overview, it seems important at this stage to investigate the relevant studies that have been conducted by researchers in the field.

In 2.1, we detail how researchers (behaviorists, economists and others) define entrepreneurs according to the premises of their own disciplines, and how the field of entrepreneurship expanded into the soft and management sciences. At the end, we give a brief description of the continuum principle.

In 2.2, we tackle the three dimensions under which this research has been developed. In 2.2.1, we start with the individual dimension and the studies carried out in this field. This section includes the association between Hofstede's cultural dimensions and entrepreneurial traits; it also includes the association between Schwartz personal values and some entrepreneurial traits.

Then, in 2.2.2 we move to the organizational dimension, where we elaborate on the research that examined the relation between 1- the category of activity that the students are attracted to, 2- the presence of a role model in their life, 3- the availability of support from the reference group and the decision to start-up a business. Finally, in 2.2.3 we analyze the empirical studies concerning the relation between the different environmental variables and the decision to engage in an entrepreneurial activity.

2.1 HISTORICAL BACKGROUND

Researchers are inclined to perceive and define entrepreneurs according to the premises of their own disciplines. For example, the economists have associated entrepreneurs with innovation, whereas behaviorists have adopted the creative and intuitive characteristics of entrepreneurs.

The Economists

One of the earliest definitions of an entrepreneur was that of Cantillon (1700) who described the individual as a rational decision maker who assumed the risk and provided management for the firm (Kilby, 1971). Jean-Baptiste Say was the second author to take interest in entrepreneurs. He regarded economic development as the result of venture creation.

Cantillon and Say considered entrepreneurs as risk takers basically because they invested their own money. In Cantillon's view, entrepreneurs bought raw material at a certain price, in order to process it and resell it at an uncertain price. Say associated entrepreneurs with innovation; he saw entrepreneurs as change agents and defined the boundaries of what makes an entrepreneur. Filion (1988) described Say as "the father of entrepreneurship" who laid a foundation for the field.

Schumpeter (1934) credited Mill (1848), because the latter brought the term "entrepreneur" into general use among English economists. However, it was Schumpeter who really launched the field of entrepreneurship by associating it clearly with innovation. His emphasis on this point is revealed in his declaration that "one behaves as an entrepreneur only when carrying out innovations" (Schumpeter, 1928).

To summarize, the economic trends of thought on entrepreneurship (Schumpeter, 1928), we can adopt Baumol's (1993) proposal of 2 categories of entrepreneurs, the entrepreneur-business organizer and the entrepreneur-innovator.

The Behaviorists

One of the first authors that showed an interest in entrepreneurs was Max Weber (1930). He identified the value system as a fundamental element in explaining entrepreneurial behavior. However, the author who really launched the contribution of the behavioral sciences to entrepreneurship was, with no doubt, David C. McClelland.

In the second half of the twentieth century, entrepreneurship studies were influenced mainly by McClelland's research on achievement motivation. His study, which was published in 1961, was a pioneering effort in the attempt to determine whether entrepreneurs tend to hold a certain psychological set (Brockhaus, 1982). The need for achievement is one of the fundamental attributes of entrepreneurs who are self-starters and who appear to be internally driven by a strong desire to compete, to work according to self-imposed standards, and to pursue challenging goals (Kuratko and Hodgetts, 1998).

McClelland (1961) considered entrepreneurs as business executives representing various functional specialties. General management, sales and marketing, finance, engineering, and personnel senior marketing managers were found to have the highest need for achievement.

The School of Personality Traits

After McClelland, the behaviorists dominated the field of entrepreneurship for 20 years until the early 1980s. Their goal was to define entrepreneurs and their characteristics. The most common are shown in Table 2.1.

Table 2.1

Characteristics most often Attributed to Entrepreneurs by Behaviorists

Innovators	Need for achievement
Leaders	Self-awareness
Moderate risk-takers	Self-confidence
Independent	Long-term involvement
Creators	Tolerance of ambiguity and uncertainty
Energetic	Initiative
Tenacious	Learning
Original	Use of resources
Optimistic	Sensitivity to others
Results-oriented	Aggressive
Flexible	Tendency to trust people
Resourceful	Money as a measure

Source: Hornaday, 1982; Meredith, Nelson et al., 1982; Timmons, 1978

Toulouse and Brenner (1992) found that local entrepreneurs generally reflect the cultures of their own communities. Other researchers have demonstrated that people have more chance of becoming entrepreneurs if they have a role model in their family or environment (Filion, 1988). When people become involved in an entrepreneurial activity, the nature of the activity trains them to practice and develop certain characteristics. For example, they have to be persistent and creative if they want to stay in business. Rotter (1966) considered "locus of control" as an acquired characteristic; when a person is in leadership, he or she must develop certain amount of influence on people if things are to occur when and where desired. Locus of control is a characteristic often attributed to entrepreneurs and is a skill gradually learned and acquired by someone who demands that his or her wishes be realized.

Expansion of the Field of Entrepreneurship

In the 1980s, the field of entrepreneurship exploded into almost all the soft and management sciences. In fact, a large number of researchers, each using culture, logic and methodology from their own fields began to take an interest and work in the field of entrepreneurship and small businesses (Filion, 1997).

At the same time, the number of venture creations was growing and the share of GNP attributable to small business in all countries was increasing every year (Filion, 1997). In order to accompany this evolution, professors had to learn more about entrepreneurship, which led to an extensive research in the field.

The results were surprising. While the difference is great if we compare the definitions of the entrepreneurs between disciplines, the definitions provided by specialists within the same field were more or less identical (Filion, 1988). The economists tend to agree that entrepreneurs are associated with innovation and are considered the driving forces of development. The behaviorists insinuate on the characteristics of creativity, locus of control and leadership. Engineers look at entrepreneurs as good distributors and coordinators of resources (Filion, 1997). Finance specialists regard entrepreneurs as people able to measure risk. Management specialists define entrepreneurs as resourceful and as good organizers and users of resources. For marketers, entrepreneurs identify opportunities and adopt customer oriented thinking. For students of venture creation, value, diversity, and depth of experience and skills by the would-be entrepreneur in the relevant field predict their future success.

The Continuum Principle

Due to the difficulty encountered in providing a profile for an entrepreneur from the characteristics attributed by behaviorists listed in table 1, Vesper (1980) suggested a continuum along which several types of entrepreneurs exist. Included will be those who

start companies either as artisans/professionals or around new products and services, or those who acquire and transform existing firms. Excluded will be those who just buy and rent or sell for profit (i.e. business brokers and real estate operators). Table 2.2 below lists the different types of entrepreneurs.

Table 2.2
Types of Entrepreneurs

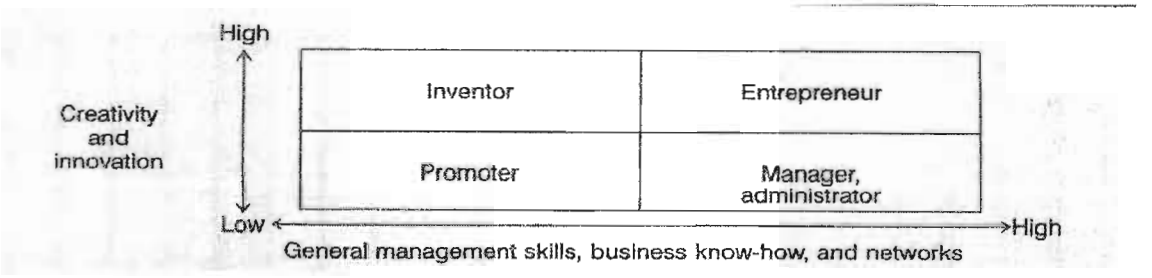
Self employed	Acquired
Team builder	Buy-sell artist
Independent innovator	Conglomerator
Pattern multiplier	Speculator
Economy of scale exploiter	Apparent value manipulator
Capital aggregator	

Source: Vesper (1980)

Many authors have established typologies to classify entrepreneurs and small business owner-managers. Collins and Moore (1970) talked about the administrative entrepreneur and the independent entrepreneur. Filion (1994) differentiated between two types of entrepreneurs, the operator and the visionary. The operator tries to earn a living by using his/her skills. He/she works to a fairly fixed schedule in the enterprise and the job is one of many elements making up an overall life system. The visionary is highly focused on novelty and innovation, less involved in practical matters, and has dreams or visions to be realized.

Timmons (1994) demonstrated a relationship between the creativity and innovation of the entrepreneurs from one side and their management skills and business know-how from the other side (Figure 2.1).

Figure 2.1 Who is the Entrepreneur?



Source: Timmons (1994).

The promoters lack business skills and true creativity, whereas the administrators ensure the smooth operation of the status quo (high management skills where creativity is not required). The inventors are known for their creativity but lack serious management, whereas the entrepreneurs excel in management skills and creative abilities.

2.2 ENTREPRENEURSHIP DIMENSIONS

A large number of venture creation process frameworks (e.g. Moore and Krueger, 1986) suggest that the rate of new venture formation is contingent upon not only the availability of individuals predisposed to initiate new ventures, but also the economic, social and political climate which facilitates and supports entrepreneurial activity.

This article has been developed along three main dimensions: Individual, organizational and environmental:

2.2.1 Individual Dimension

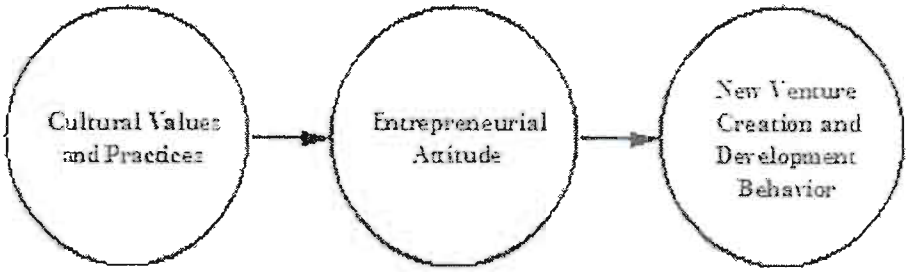
Due to the fact that individuals are able to establish several firms simultaneously, it is not only the firm that should be studied, but the people who set them up as well. On the other hand, before organizations there are pre-organizations (Katz and Gartner, 1988; Van De Ven, 1984). They exist at the beginning of the process as ideas or dreams of the individual. It is in the start-up process that these ideas are sometimes translated into a pre-organization, and then probably to an organization. Central to the process is the "entrepreneur" in whose mind all the facts come together, who believes that the dream can come true and who has the persistence and the patience to undertake the mission until it is completed.

Many research attempts have tried to determine the individual characteristics that distinguished potential entrepreneurs from non-starters and have examined the influence of these characteristics on their intention to start-up a business. These characteristics are usually grouped in one set. I have grouped them in three different categories, taking into account the role of culture and values in shaping a particular individual in a particular region.

2.2.1.1 Cultural Traits

Human beings are products of their environment. Several authors have demonstrated that entrepreneurs reflect the characteristics of the period and place in which they live (Newman, 1981). From an entrepreneurial point of view, entrepreneurship appears to be a regional phenomenon. The culture, needs and habits of a region fashion behaviors. Entrepreneurs integrate and interpret these behaviors, and this is manifested in the way they create their enterprises (Figure 2.2).

Figure 2.2 Cultural Model of Indigenous Entrepreneurial Attitude



Source: Lindsay (2005).

Since individual personalities and behaviors, firms, political/legal systems, economic conditions and social mores are all intertwined with the national culture from which they originate (Berger, 1991), the study of entrepreneurship under a cultural umbrella seems reasonable.

2.2.1.1.1 CULTURE

The term "culture" is elusive. It has been emphasized by (Firsirotu, 1981): "...One cannot describe it, for it is a protean in shape. An attempt to encompass its meaning in words is like trying to seize the air in the hand..."

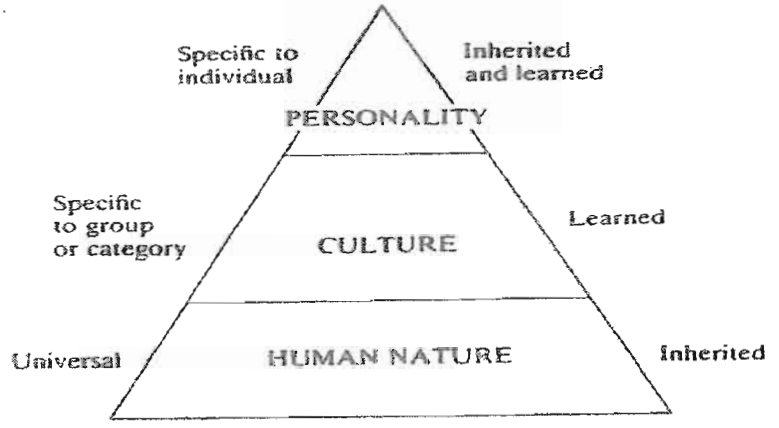
Kluckohn's definition provides common denominators: Culture is the structured way in which a group of people, thinks, feels and reacts, mostly acquired and transmitted through symbols. The heart of culture is made up of traditions and values associated to them. In other words, Edward Herriot explained that culture is what remains when we have forgotten everything.

Bollinger and Hofstede (1987) have defined culture as the mental programming by which humans of a particular category may be distinguished from those of another category. Culture is not a characteristic of individuals. It encompasses a large number of

people who are conditioned by the same life experience. It is to the society what personality is to an individual.

Culture is learned, not inherited. In the context of cultural issues in organizations, Hofstede (1991) argued that the sources of one's mental programs lie within the social environment in which one grew up and collected one's life experience. Hofstede distinguished culture from human nature on one side, and from an individual's personality on the other, shown in Figure 2.3.

Figure 2.3 Three Levels of Uniqueness in Human Mental Programming



Source: Hofstede (1991).

Human nature is what human beings have in common. It is inherited (i.e. ability to feel fear). However, the way one expresses fear can be modified by culture (Hofstede, 1991). Personality, on the other hand, is a unique personal set of mental programs partly inherited and partly learned.

2.2.1.1.2 DEVELOPMENT OF ENTREPRENEURIAL TRAITS

Despite the considerable progress that many countries have achieved while developing their economies, entrepreneurial activity remains relatively limited in many nations (Berger, 1991). Berger suggests that the economic reform is one step within a complete program of modernization. Modernization must include cultural transformation. Berger claimed, "it is culture that serves as a conductor and the entrepreneur as the catalyst to entrepreneurship" (Berger, 1991).

Values and norms are powerful forces for controlling and directing human behavior. Erez and Earley (1993) explain that culture shapes the cognitive schema which attribute meaning and values to motivational variables and guide choices and standards of behavior. Since values are determined early in life, they tend to be programmed into people that behave in patterns which are consistent with the cultural context, and they last over time (Hofstede, 1980).

So culture, as the basics of values specific to a group or society, shapes the development of certain personality traits and motivates individuals in a society to engage in behaviors that may not be as suitable in other societies. Entrepreneurial activity (i.e. new venture creation) may be one of these behaviors which vary across nations due to differences in cultural values and beliefs. However, many entrepreneurial behaviors are common across cultures. Therefore, we would expect some cultures to be more closely aligned with an entrepreneurial orientation than others.

2.2.1.1.3 CULTURE AND ENTREPRENEURIAL ACTIVITY

Classic theorists such as Adam Smith, Karl Marx, and Max Weber have debated the role played by cultural values in stimulating economic activity.

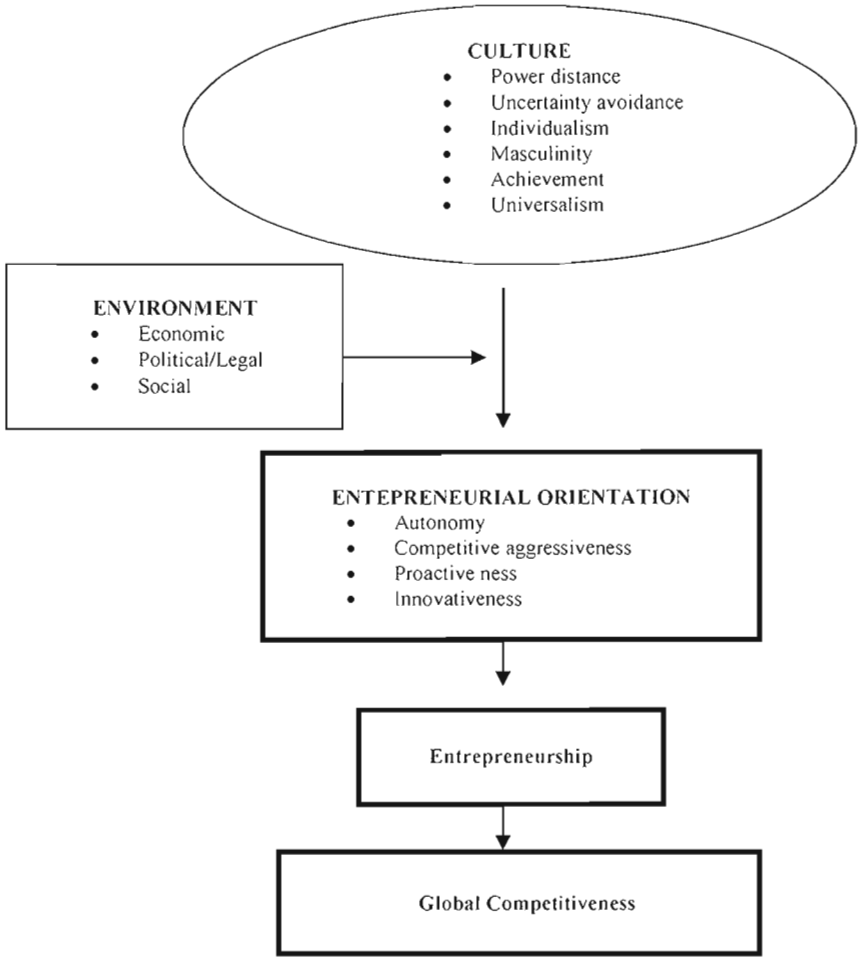
Huisman noted wide variance in an entrepreneurial activity across cultures and reached a conclusion that cultural values influence entrepreneurial behavior (Huisman, 1985). Several studies suggested a link between cultural values and entrepreneurial activity. However, the ability to translate individual intention into effective action also depends on an environment that provides the right opportunity, which enables the entrepreneur to get financial and other resources. The environment itself is shaped by a large number of players including government ministers, financial institutions and universities. While many aspects of culture may be related to entrepreneurial intention, the five cultural dimensions measured by Hofstede have received extensive attention in entrepreneurship as seen in Figure 2.4.

2.2.1.1.4 HOFSTEDE'S CULTURAL DIMENSIONS

Based on the work of Kluckhohn, Kroeber and Parsons, Hofstede sees culture as a mental programming as explained above that a society's value systems constitute the societal norms determining social stratification socialization, educational systems and legislation (Hofstede, 2001).

Hofstede's original research yielded four dimensions and, later on with Bond, revealed the existence of a fifth dimension related to basic issues facing societies (Hofstede and Bond, 1988). These dimensions were; Power Distance, Uncertainty Avoidance, Individualism versus Collectivism, Masculinity versus Femininity and finally, Confucian Dynamism. (Long Term Orientation).

Figure 2.4 Model Depicting the Relationship Between Culture and EO, as it Relates to Entrepreneurship and Global Competitiveness.



Source: Lee and Peterson (2000).

The studies that attempted to replicate this work have largely confirmed the results found by Hofstede (Sondergoard, 1994). Hofstede's research has received handful criticism regarding the survey-based quantitative methodology used and the sampling process employed. However, researchers have noted its importance as "one of the major landmarks of cross-cultural research" (Triandis, 1982).

Although Hofstede did not specify the relationship between culture and entrepreneurial activity, his culture dimensions are useful in identifying the key elements of culture related to entrepreneurial orientation. On the other hand, empirical studies linking Hofstede's dimensions of culture to entrepreneurship have focused on the

relationship between the characteristics of the individual entrepreneur and the culture. Bearing in mind that culture reinforces certain personal characteristics and inhibits others researchers have linked cultural dimensions to traits associated with entrepreneurship.

Muller and Thomas found that entrepreneurial orientation, a combination of measures of innovative orientation and internal locus of control was higher in cultures with high individualism and low uncertainty avoidance (Muller and Thomas, 2001). Megrath found that values held by individuals on the verge to start their own business were related to the four dimensions of Hofstede (Mcgrath, MacMillan and Scheinberg, 1992). While Shane concluded that individual tendency for innovation roles was linked to Hofstede's dimension of low uncertainty avoidance (Shane, 1995).

Uncertainty Avoidance

Hofstede defined uncertainty avoidance as "...the extent to which the members of a culture feel threatened by uncertain or unknown situations" (Hofstede, 1991: 113). The extent to which members of some societies are inclined to be anxious regarding the future unpredictability will have implications for innovation and therefore entrepreneurial activities in that country (Shane, 1995). According to Hofstede, strategies for dealing with uncertainty are rooted in culture but reinforced through the family, the school or the government (Hofstede, 1980). Hofstede also found that high uncertainty avoidance cultures emphasize the importance of security, evidence, and the greater fear of failure; in these cultures conflict and competition are to be avoided.

In low uncertainty avoidance cultures, life is more easily accepted with its surprises. Conflict and competition can be controlled. Social deviants are not perceived as threatening, hence there is a tendency for creative and novel behavior. In these cultures there is more willingness to take risks and achievement is recognized as a pioneering effort (Hofstede, 1980). Therefore, low uncertainty avoidance societies may see a greater status and self-fulfillment in entrepreneurial objectivities. So, considering start-ups may be easier in these societies.

Individualism vs. Collectivism

Individualism is associated with societies in which social ties and commitments are loose. Collectivism at the opposite pole pertains to societies in which people, right from birth, are integrated into cohesive, strong in-groups (extended families, firms, unions...) which throughout their life protect them in exchange for loyalty (Hofstede, 1991).

In individualistic cultures, social identity is based on individual contribution; personal initiative and achievement are emphasized. Independence variety, self satisfaction and personal financial security take the priority over group loyalty. As a result, in these cultures there is a greater professional mobility since individuals are supposed to look after themselves (Hofstede, 1980).

In collectivistic cultures, individuals are born into extended families which provide their protection. Social identity is based on group affiliation. A greater emphasis exists on belonging rather than personal initiative. As a result, an individual is not highly valued and deviance in opinion is not appreciated. In these cultures, group decisions precede individual decisions (Hofstede, 1980).

Many studies have found a relationship between individualist cultures and entrepreneurial orientation (Peterson, 1980; Lee and Peterson, 2000).

Power Distance

Hofstede's power distance index includes beliefs that discourage innovation. These beliefs include importance of hierarchy, vertical communication patterns, centralization of power, control over subordinates, and resistance to change in the distribution of power (Hofstede, 1980).

Thompson, Burns and Stalker found that minimizing hierarchy increases the possibility of innovation (Thompson, 1967; Burns and Stalker, 1961); while other researchers like Maidique and Hayes have reached the conclusion that policies that reduce equality among the members of an organization reduce innovation in the United States (Maidique and Hayes, 1984).

It has been shown that decentralized authority increases innovation both in the United States (Hage and Aiken 1970; Aiken and Alford 1970; Zaltman et al 1973; Hull and Hage 1982) and Japan (Imai, 1985). Hofstede found that individuals in power distance cultures prefer the concentration of authority and decision making.

Trust in subordinates encourages innovation, while rigid control has been found to obstruct the flexibility needed for innovation (Block and Millan 1985; Sathe 1988). Tight control also reduces creativity and prohibits mobility (Schollhamer, 1982), while freedom from strict rules promotes idea generation. These findings have been justified by Kanter in the United States and Westney and Sakakibara in Japan (Kanter, 1982; Westney and Sakakibara, 1985).

Masculinity

According to the work of Hofstede the cultural value of masculinity is related to two organizational characteristics: rewards and recognition for performance, and training and improvement of the individual (Hofstede, 1980). These two characteristics are both common to innovative organizations. Gee and Tyler found that innovative managers are motivated by financial rewards, prestige, and a sense of accomplishment (Gee and Tyler, 1979). Hofstede's work has shown also that individual achievement and rewards are characteristics of masculine societies.

As per Kanter, innovating companies invest in employee development (Kanter, 1982). Hofstede found a link between masculinity and the importance of training. He saw that the Masculinity versus Femininity dimension was associated most strongly with the

importance attached to earnings, recognition, advancement and challenge for the masculine pole (Hofstede, 1991:81).

Confucian Dynamism/Long Term Orientation

Hofstede and Bond, building on the work of Hofstede and Chinese cultural researchers, introduced at a later stage a fifth cultural dimension, the Confucian Dynamism, later on named long term orientation, which was picked up by earlier studies (Hofstede and Bond, 1988). This dimension is composed of the following values: on the pole, which could be labeled "long-term orientation", persistence, status based relations, thrift and shame (Hofstede, 1991: 165-166), and on the opposite pole, "short term orientation", stability and tradition, protecting face, and reciprocal exchange of favors and gifts.

Their study among 23 countries found that nations with higher long-term orientation demonstrated better growth between 1965 and 1987. Another study conducted by Franke, concerning the economic growth of 20 countries in two periods, 1965 and 1987, concluded that Confucian Dynamism contributed positively to GDP growth (Franke, 1991).

2.2.1.1.5 ASSOCIATION BETWEEN HOFSTEDE'S CULTURAL DIMENSIONS AND ENTREPRENEURIAL TRAITS

According to the literature review previously stated and several studies which provided a variety of entrepreneurship models, I have prepared a table that lists Hofstede's cultural dimensions and the corresponding entrepreneurial attributes/traits. Also, I have included in Table 2.3 the 14 "work goals" concepts that Hofstede used in measuring the cultural values.

Table 2.3

Association between Hofstede's Dimensions and Entrepreneurial Traits

Hofstede's Dimensions	Entrepreneurial Attributes/ Traits associated to Hofstede's Dimensions	Hofstede's Work Goals
Uncertainty (Low pole)	Innovation (novel behavior) Risk Achievement	Risk Concept of success
Individualism	Professional mobility Independence/Autonomy Self-satisfaction	
Power distance "Low Pole"	Innovation Creativity Mobility Change	
Masculinity	Earning Competition Power Prestige Sense of accomplishment	Money Competition Personal power
Confucian Dynamism "Long term orientation"	Growth Persistence Valuation of time	Significance of time Equality Work Decision making Notion of duty Concept of failure Personal rights Being an entrepreneur

In the following paragraphs I will detail how different researchers associated some entrepreneurial traits to Hofstede's cultural dimensions.

Innovativeness

Innovation is "...the process that turns an invention...into a marketable product" (Gabor, 1970). It involves more than inventing, it is the commercialization of ideas, implementation and modification of existing products, systems and resources (Bird, 1989: 39). Drucker elaborated on the innovator role of entrepreneurs, describing the innovation as "the specific tool of entrepreneurs...and...the means by which they exploit change..." (Drucker, 1985).

Carland, Hoy, Boulton and Carland (1984) defined the entrepreneur as an individual who established a business for the purpose of profit and growth and that he/she is characterized mainly by innovative behavior.

Research by Sexton and Bowman-Upton showed that entrepreneurship students are inclined to be more innovative than other business students (Sexton and Bowman-Upton, 1986). Both Carlands concluded in their studies that both male and female entrepreneurs have higher levels of innovative preference than their counterparts in management positions (Carland and Carland, 1991). Furthermore, in an American sample, founders scored higher than non-founders (Tuunanen and Hyrsky, 1997).

The most relevant to this research are the studies that have shown that innovation is a primary motive to start a business. Shane, Kolvereid, and Westhead reported that the opportunity to innovative technology was frequently given as a reason for starting a business (Shane, Kolvereid and Westhead, 1991). Also, innovation has been also cited in international studies as a motive for starting an enterprise (Scheinberg and McMillan, 1988).

Autonomy

One of the characteristics that precipitate the process of the entrepreneurial event is the independent spirit and freedom necessary to create new ventures. The dimension of autonomy is a critical part of entrepreneurial intention. However, the role of culture should be very significant in order for this dimension to be effective. Potential entrepreneurs must operate within cultures that promote entrepreneurs to act independently, to keep personal control, and to seek opportunities in the absence of societal constraints (Lee and Peterson, 2000). Autonomy is one of the most frequently stated reasons for founding a firm or wanting to do so (Scheinberg and McMillan, 1988).

Competition

The competitive aggressiveness dimension refers to a culture's propensity to promote entrepreneurs to be achievement oriented by competing with other players in the market or by improving their position relative to other firms (Lee and Peterson, 2000). In my research, it would reflect on the capacity of the entrepreneur to be able to provide a new concept of a product or a service that is in the position to compete with existing firms that carry out a similar activity. Competition is not limited to the final product but expanded to include organizational preparations (during start-up process), standards and procedures (future operations) as well as the future owner-manager capacity of putting the system in motion.

Competition is an important component in entrepreneurship studies because a large number of new ventures are much more likely to fail than established businesses (Lee and Peterson, 2000). As a matter of fact, a study by Vesper showed more than half of all new businesses may fail within the first five years (Vesper, 1990). In addition, competitiveness is the most important variable in Lynn's study of the relationship between national culture and economic growth (Lynn, 1991). Therefore the potential entrepreneur needs to be competitive in order to have the will to start-up a firm and enter a market where the name of the game is competition.

Proactive Personality

The proactive personality scale measures a personal disposition toward proactive behavior, an idea that intuitively appears to be linked with entrepreneurship. Bateman and Grant think that individuals with a proactive personality "scan for opportunities, show initiative, take action, and persevere until they reach closure by bringing about change" (Bateman and Grant, 1993: 105). Bateman and Grant defined the prototypic "proactive personality" as one who is more or less unconstrained by environmental forces and who effects situational alterations.

Proactivity differs from affective traits (well-being) and from cognitive traits (locus of control). As worded by Buss and Finn, proactivity is an instrumental trait; it belongs to the class of behaviors that has impact on the environment (Buss and Finn, 1987).

Interactional ties exist between person, environment and behavior (Bandura, 1977). Therefore, individuals are able to alter their current circumstances, such as by choosing careers for which they think they are best suited. Accordingly and based on the interactionist theory, it seems logical that proactive personalities may be attracted to entrepreneurial endeavors. This type of personality inclination has been studied by Shapero as well as Sokol, Krueger and Brazeal as an important precursor to entrepreneurial intentions (Shapero and Sokol, 1982; Krueger and Brazeal, 1994).

Need for Achievement

This characteristic has received much of the researcher's attention. McClelland's work was a pioneering effort in the domain of personality traits and entrepreneurship; he argued that individuals with high nAch set challenging goals and hold themselves responsible to solve all the problems that push them to reach these goals. Such people have a strong desire to have a feed-back on how well they performed while accomplishing a certain task, and they engage in activities that require individual skill

and effort (McClelland, 1961). McClelland also argued that entrepreneurial roles have a greater degree of these attributes; therefore, people with high nAch tend to pursue entrepreneurial careers more than other jobs.

Based on a set of 23 studies, including a variety of samples, Johnson concluded that there is a link between nAch and entrepreneurial activity (Johnson, 1990). Usually nAch distinguished firm founders from other individuals. Fineman reached the same conclusion (Fineman, 1977).

The final results of the meta-analysis conducted by Collins, Locke and Hanges determined that nAch is significantly related to founding a company. The nAch predicted the performance of the founder's firm (mean r = 0.28) (Collins, Locke and Hanges, 2000).

2.2.1.2 Personal Values Traits

2.2.1.2.1 VALUES

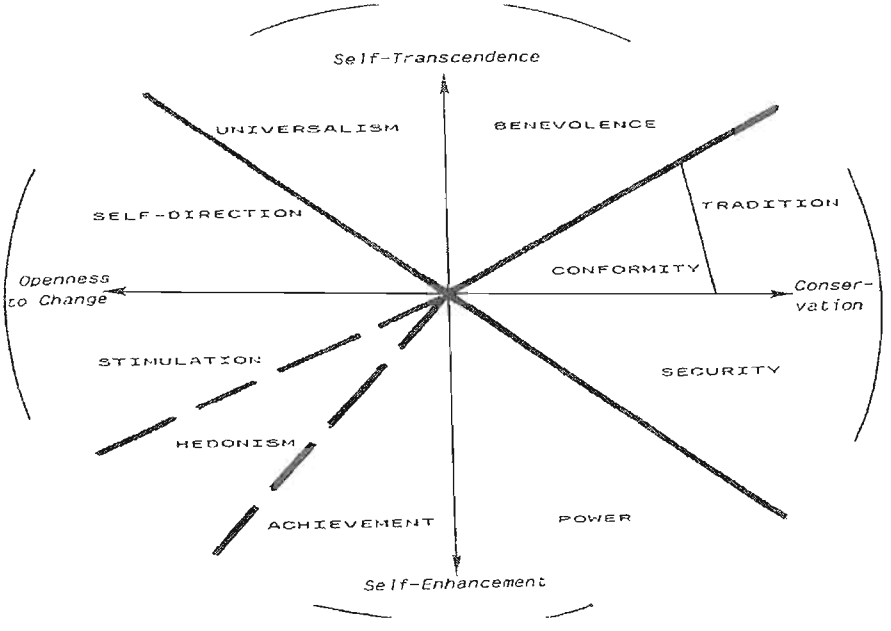
The notion of values like culture is hard to define. Recently authors have defined values as the predisposition to act in a certain way, as a system of beliefs about what is good and desirable, as a scheme defining social attitudes.

Rokeach has classified values as either terminal (progress, harmony, and peace) or instrumental (honesty and ambition). In his opinion, the average adult has very few terminal values (finalities of existence) and only a few dozen instrumental values (lines of conduct) (Rokeach, 1973).

2.2.1.2.2 SCHWARTZ'S PERSONAL VALUES

The most important set of research on personal values in the last few years has been conducted by Schwartz and colleagues (e.g., Schwartz 1992; Schwartz and Sagiv 1995). The values are distinguished according to the type of motivational goal they express. Ten motivationally distinct types of values were extracted and put in a circular design to form the proceeding (Figure 2.5).

Figure 2.5 Theoretical Model of Relations among Motivational Types of Values, Higher Order Value Domains, and Bipolar Value Dimensions



Source: Schwartz (1992)

This figure reflects the principle that the pursuit of different value types can be compatible or in conflict depending on how close the value types are (Schwartz, 1992). For example, stimulation and self-direction are situated next to each other in the continuum. Pursuing these 2 values means heading towards the same direction within the

circle of Figure 2.5, and therefore involve motivations towards similar type of goals: mastery and openness to change. On the contrary, stimulation is placed at the opposite of conformity and tradition within the circle. While stimulation is associated with challenge, risk and change, conformity and tradition are linked with self-restriction and preservation of the status quo. In this case, the 2 groups of value types are pulling to opposite directions, which lead to psychological and social conflict (Schwartz, 1992).

Moreover, the ten value types are arranged according to four higher order value domains that constitute two main bipolar dimensions:

1- Openness to Change versus Conservation
2- Self-transcendence versus Self-enhancement

The continuum that includes the 2 bipolar dimensions is the basic aspect of the Schwartz value system (Schwartz and Sagiv, 1995).

2.2.1.2.3 ASSOCIATION BETWEEN SCHWARTZ PERSONAL VALUES AND ENTREPRENEURIAL TRAITS

In the context of entrepreneurial intentions, which form the frame of this study, the 2 poles, openness to change and self-enhancement, are particularly important. The 2 value types related to openness to change are self-direction and stimulation, which translate the extent to which people are motivated to follow their own intellectual and emotional interests in unpredictable and uncertain conditions (Schwartz, 1992: 43). The 2 value types related to self-enhancement are power and achievement, which translate the extent to which people are motivated to enhance their personal interests.

Although the goal of each main type remains unchanged, the set of values intended to measure it have been altered so as to fit this goal more closely (Schwartz,

1992: 6-7). See Table 2.4 for the main value type and the corresponding set of values intended to measure it.

Table 2.4

Associations of Single Values with Motivational Types of Values

Polar Dimension	Main Value Type	Set of Motivational Type of Values
Openness to Change	Self-direction	Freedom Creativity Independent Choosing own goals Curious Self-respect
	Stimulation	An exciting life A varied life Daring
Self-enhancement	Achievement	Ambitious Influential Capable Successful Intelligent
	Power	Social Power Wealth Authority Preserving public image Social recognition

Source: Schwartz (1992)

Personality traits are distinct from, but related to, values (Bilsky and Schwartz, 1994). Therefore, various personality traits studied in other researches (for example, innovativeness, independence, power, change, risk taking, etc...) can be conceptually

related to Schwartz's value types and domains. Specifically, independence seems to be one of the closest to openness and change, whereas social power and wealth seem to be close to achievement and power (main value types), therefore to self-enhancement pole. Independence and power (social power and wealth) were among the personality traits that were linked the most to entrepreneurial activities. Below is some pertinent literature:

Independence

Independence means taking the responsibility to put into action one's own judgment instead of following blindly the beliefs of others. It also includes assuming the responsibility for one's own life.

Many studies have concluded that the entrepreneurial role is linked to independence in many aspects (Shane, Locke and Collins, 2003). First, the entrepreneur takes in hand the pursing of a new opportunity. Second, entrepreneurs are held responsible for results (negative or positive). Third, individuals prefer entrepreneurial careers because they prefer to be independent. Hisrich found after conducting interviews with U.S female firm founders, that one of the main reasons for starting a business was the desire for independence (Hisrich, 1985).

Hornaday and Aboud carried out a survey of 60 founders, whose results suggested that these founders were significantly higher than other individuals on measures of independence (Hornaday and Aboud, 1973).

Risk Taking

Entrepreneurship has been most widely described as the willingness to assume risk. Individuals who accept the risk associated with starting-up a company rather than settling in a secured job are often considered as entrepreneurs. Begley defined risk-taking propensity as the willingness to take moderate risks. In his study, Begley found that risk

taking propensity is a trait that differentiated founders from other individuals (Begley, 1995).

While some empirical findings suggest that risk taking may not be an entrepreneurial motivation (Kogan and wallach 1964), self-efficacy reversed the findings. New studies supported by interviews and by expert evaluations, (e.g., Corman, Perles and Vancini, 1988; Fry, 1993) concluded affirmatively that firm founders have a higher propensity for risk than do other members of the population, but that firm founders do not perceive their actions as risky. That is expected; if potential entrepreneurs evaluate the risk involved in the events the same way as the others do, they probably would not go for an entrepreneurial career known in advance as a risky option.

Power

Power values focus on social esteem. They involve some degree of status differentiation. A dominance/submission dimension emerges in a large number of interpersonal relations (Lonner, 1980). The central goal of power values as seen by Schwartz is the attainment of social status and prestige, and control or dominance over people and resources (authority, wealth, social power, public image and social recognition) (Schwartz, 1992).

Although not many studies have included social power and public image as motivational type characteristics in the entrepreneurship field, wealth as money or payoff has been observed by several researchers. Payoff is made up of beliefs concerning two distinct components; work load and risk as one component and the financial gain to be expected by a business founder as the second component. This type of expected outcomes would be included in the models based on the microeconomic theory or Expectancy Theory (Vroom, 1964). For example, Campbell identified this type of beliefs as "determinant of entrepreneurial acts" (Campbell, 1992).

2.2.1.3 Individual Characteristics

2.2.1.3.1 PERSONALITY TRAITS

In order to describe personality, I selected aspects that are identified as relevant to the entrepreneurial personality, or that have demonstrated constant significance in various studies:

Tolerance for Ambiguity

This factor suggests "coping with unexpected challenges". It deals with uncertainty that faces the life of a start-up entrepreneur. Shifting from the comfort of an existing company or from a certain job, to the world of the nearly unknown, requires someone that tolerates the lack of complete information and the skill to handle surprises.

According to Budner, ambiguity may result from novelty, complexity or insolubility; it is the tendency to perceive ambiguous situations as desirable and not threatening (Budner, 1962). As Gasse remarks, "entrepreneurs consider uncertainty as an existing stimulus rather than a severe threat" (Gasse, 1982: 59). The main point is the goal rather than the means (Lafond, 1984).

In the same direction, Schere found that tolerance for ambiguity is an important trait for potential entrepreneurs because the difficulties that might be encountered and the percentage of success associated with business start-up are unpredictable (Schere, 1982).

Begley and Boyd (1987) supported this claim by finding that firm founders scored higher in tAmb than did managers. Miller and Drodge (1986) reached the same results, while other studies did not match these findings. Both Babbs (1992) did not find significant difference in tolerance for ambiguity between founders and non-founders of rural business in Florida.

Even though tAmb does not ascertain positive resolution of environmental factors, I still expect tAmb to be linked with the pre-entrepreneurial process.

Locus of Control

Rotter contributed to the development of a "locus of control" construct. According to Rotter, individuals who have an external locus of control believe that forces outside their control affect the outcomes of an event while individuals who have an internal locus of control believe that they can influence the outcomes of an event through their effort (Rotter, 1966).

An association between entrepreneurial behavior and an internal locus of control orientation has been established. By definition, entrepreneurs are action initiators taking responsibility for their own well-being and not dependent on others (McClelland, 1961).

As a conclusion, if one does not believe that his or her effort can make a difference or alter the result of an event, then that individual will be unlikely in a position to risk exposure to the high price of a failure. Since perception of risk is crucial to new venture formation it means that prospective entrepreneurs are more likely to possess an internal locus of control tendency than an external one (Brockhaus, 1982).

Borland found that Business majors who expected to start a company in the future had stronger belief in internal control (Borland, 1974). Brockhaus also conducted a study with business students and concluded that students with entrepreneurial intentions had a higher internal locus of control than those who did not have such intentions (Brockhaus, 1975).

Other studies within the 1990s used a three dimensional (internal, external, and chance) locus of control scale and found that student entrepreneurs are more internal than a control group (Bonnet and Furnham, 1991).

Goal Setting

Behind this characteristic exists a whole theory: the goal setting theory; this theory considers that the goals of people will affect how they will behave and how well they will perform, because goals depend on what people believe they can achieve according to recollections of past performances, doubts about consequences and judgments concerning the present situation (Ljubljana, 2005).

Goals affect performance within three levels: first, by motivating people to put effort; second by encouraging them to persist in working towards the objectives; and third, by leading them to relevant behaviors (Locke and Lathan, 1990). Therefore, these three levels lead us to two concepts relevant to the prediction of entrepreneurial behavior: Goal level and goal commitment.

Locke and Lathan found a link between goal level (difficulty) and performance level. The three factors, effort, persistence and attention, operate automatically once the commitment is there and the individual decides to reach his goal (Locke and Lathan, 1990).

Commitment, on the other hand, refers to one's determination to reach a goal (Locke and Latham, 1990). Salancik argued that behavior is appropriate proof of commitment and the accurate measure of it. Goal commitment will not be included in this study; it may serve as a bridge between entrepreneurial intentions and actual entrepreneurial behavior (beginning the process of a start-up). This study is limited to the intentional stage only (Salancik, 1977).

Type A Behavior

This characteristic has been defined by Friedman and Rosenman as:

> "... an action-emotion complex that can be observed in any person who is aggressively involved in a chronic, incessant struggle to achieve more and more in less and less time, and if required to do so, against

> the opposing efforts of other things or other persons (Friedman and Rosenman, 1974).

The Type A behavior pattern (TABP) elements include impatience and irritability, time urgency, driving ambition and generalized competitiveness.

Begley and Boyd support what Timmons, Smollen and Dingee (1985) have concluded; entrepreneurs aspire to exceed their own results; the competition is with themselves and not with others. Various studies indicated that small business owner-managers scored high on TABP (Begley and Boyd, 1986; Boyd 1984). Other studies by Howard found that Type A behavior is linked to recent company growth rates (Howard, 1977).

Studies have focused mainly on business owner-managers and have not dedicated special attention to founders. Very few studies have used founder-non founder distinction as the basis for a TABP comparison. In one of the studies (Boyd and Gumpert, 1983), the Type A mean of founders was higher than the Type A mean of non founders.

In this study, I am suggesting to include Type A behavior as a possible characteristic of the university student that intends to start-up a new venture.

Self Efficacy

Self-efficacy is the belief in one's ability to bring together the necessary personal resources, skills and competencies to reach a certain level of achievement on a given duty (Bandura, 1997). Self-efficacy can be looked at as task-specific self confidence; that explains exactly why people of equal ability can perform differently.

An individual with self-efficacy is ready for a given task to put more effort and time, he/she is able to persist through set backs and to fix and accept higher goals. A difficult job for the average individual would be a challenging one for him/her. A person with self-efficacy does not take no for an answer; he/she considers a negative feedback in

a more optimistic manner considering that dealing with the incident is a chance to look at the job from a different perspective.

This attribute is important to the entrepreneurial process, especially in its formative stage; at this stage, a potential entrepreneur needs to be positive, self confident and he/she needs to feel that he/she is capable to undertake the mission.

2.2.1.3.2 SOCIO DEMOGRAPHICS

There are additional individual difference variables that have been found to predict entrepreneurial behaviors. Brockhaus and Horwitz (1986) identified few relevant personal characteristics including age, gender, education and role models. Other studies by Stanworth, Blythe, Granger and Stanworth (1989) established consistent relationships between certain personal background variables and entrepreneurial behavior. In a review of the literature, I have collected several variables that may influence entrepreneurial intentions:

Gender

Differences in entrepreneurship (especially, that males are found to be more likely than females in an entrepreneurial career) have been explained in terms of work value differences (Brenner, Pringle, and Greenhaus 1991).

A comprehensive study by Reynolds (1992) indicated that there are more than twice as many nascent entrepreneurs among males than among females in the US. Mathews and Moser (1995) also found that males have higher than females' interest in business ownership.

Age

Several studies clearly pointed out Age as a relevant factor for determining a person's propensity to found a firm (Brockhaus, 1982; Reynolds, 1995). The link is the strongest at the peak point of age somewhere around 35 years of age. Although the sample in this study is drawn from a very narrow age span (university students) where age will not make a difference, the sample might include MBA students that belong to a higher age span. Then, age could play a role in effecting the intentionality of the student, especially the older students. They could have left university for a while and have acquired some experience before joining the MBA program.

Education

Robinson and Sexton (1994) found a positive relationship between entrepreneurship and self employment from one side and education from the other side. Reynolds and Miller provided data from the U.S. which indicated that individuals with lower education show less of an interest in an entrepreneurial career (Reynolds and Miller, 1990).

It will be interesting to find out if there is a difference regarding the intentionality to start-up a company between BA and MBA students, although there is not a substantial difference in the level of education between the 2 groups compared to the difference that exist between an educated and non educated individual.

On the other hand, there are other studies that concentrated on the effects of entrepreneurship programs in business schools or universities. Webb, Quince and Wathers (1982) found that students in Babson College who had courses in entrepreneurship were more likely to start their own business than other students.

The Lebanese universities do not yet include in their business programs an entrepreneurship course. Therefore, instead of studying the effects of an entrepreneurship

course in a university Business program, I will investigate the effects of Business programs versus engineering programs in universities towards cultivating an entrepreneurial intention among students.

Experience

This background characteristic concerns mainly the MBA, or BA students that have previous working experience. Boyd and Vozikis studied the effects of vicarious experience (when the job is completed by one person acting for another) and found that it is a major source of self-efficacy which in turn is a prerequisite to entrepreneurial activity (Boyd and Vozikis, 1994).

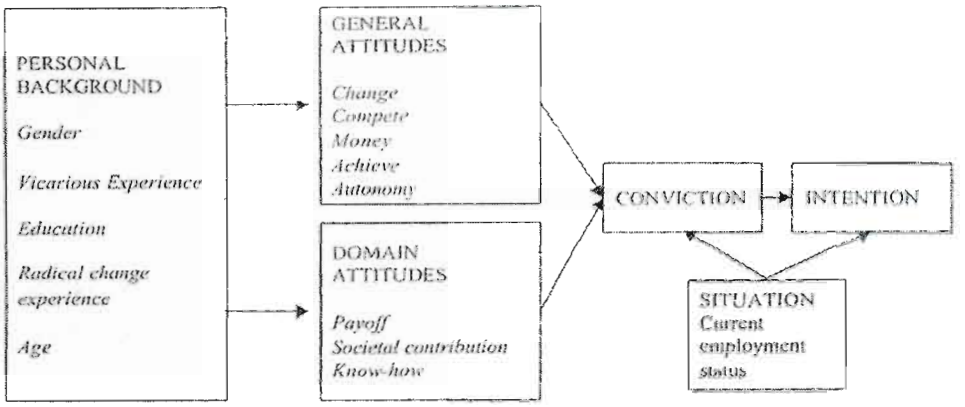
Another way to obtain vicarious experience of entrepreneurship is to work in a small, owner-manager firm. Storey and Davidson found that a large number of manufacturing firm founders used to work in small firms (Storey, 1994; Davidson, Lindmark and Olofsson, 1994).

The working experience does not have to be vicarious. Any type of experience could be relevant in my research. Being an employee is definitely an effective factor, because after a few years of employment the students would be in a better position to make a choice for a future career.

Situation

One of the models that highlight the importance of situational factors is the one proposed by Davidson in Figure 2.6.

Figure 2.6 An Economic-Psychological Model of Determinants of Entrepreneurial Intentions



Source: Davidson (1995).

Other similar models were proposed by Martin, Shapero and Sokol. The authors mentioned that not all entrepreneurs leave a position because of dissatisfaction. Some are pulled from a job by an attractive opportunity, and some are recent graduates. That's why factors like "displacement", being "between things" or facing a "window of opportunity" were being investigated (Martin, 1984; Shapero and Sokol, 1982).

Displaced persons are forced to make a career decision. Unlike working employees, they cannot afford the luxury of not making a change, and they are not quitting a good position nor are they giving away a high salary. Employment status and changes in it are considered to be the most important influences. Several types of studies have indicated a positive relationship between unemployment and firm formation (Davidson, Lindmark and Olofsson, 1994; Storey, 1994). In the case of graduates, fear of unemployment may be more applicable.

Dubini concluded that one of the determinants why individuals begin their own business is from dissatisfaction with their employment or with their organization

(unfavorable career advancement opportunities). In other words, entrepreneurship is considered as an escape from an undesirable situation (Dubini, 1989).

Situational variables are considered to have the ability to affect behavior (Krueger and Carsrud, 1993). Reynolds' results suggested that a remarkable influence is noticed in the pre-decision stage of the entrepreneurial process (Reynolds 1995).

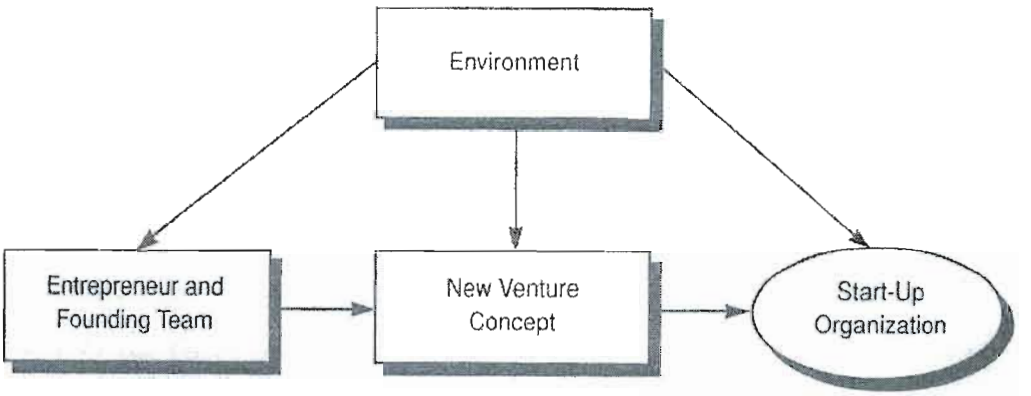
2.2.2 Organizational Dimension

When we talk about the determinants of entrepreneurial intention, we mean determinants that already exist. In my model, the organization does not exist yet; it is still an idea in the mind of the potential entrepreneur. There will not be organizational determinants per se. My model will cover only the stages or steps involved in moving from identifying an opportunity to defining a business concept.

In order to build the concept of a new venture, the potential entrepreneur has to develop the initial business idea, taking in consideration his/her goals and the environment in which the future business will operate (Figure 2.7).

Since the process of starting-up the new venture may or may not be born in the future, the prospect entrepreneur is at the intentional stage. After the general literature review on the subject, I have included the organizational dimension factors, which are expected to be relevant at this point of the process: Type of the project, role models and family business.

Figure 2.7 The New Venture Process



Source: Allen (1995).

2.2.2.1 Type of Project

Two issues will be studied under this scope: First, the category of activity that the new venture would be involved in (i.e. manufacturing, services, etc...). Second, the kind of items that would be produced (jewelry, tourism, etc ...).

These two factors would contribute in identifying the type of business that attracts the university students. Also, they would shed a light on whether there is/is not a relationship between the student's choice from one side and the culture heritage, the world trend or any other dimension from the other side.

2.2.2.2 Role Models

ORGANIZATIONAL

A high percentage that reached in some cases 97% of the new high-technology companies studied by Cooper had at least one founder who had previously worked in the same industry (Cooper, 1972). Similarly, Susbauer found that about 90% of the companies had a founder who had previously worked in the same industry (Susbauer, 1972).

Therefore, it appears in one way or another that established organizations serve as incubators for new companies with the same type of costumers. Thus, an entrepreneur who starts an organization may stimulate the employees to imitate him/her and employees who establish businesses encourage the other employees to do the same.

PARENTAL

Among those who found their own business, a large number of individuals have close role models. As per Davidson, a survey of more than 600 respondents in the UK shows that between 30% and 47% of individuals, either considering starting, or already in business, had a father who had also been involved in an entrepreneurial activity (Davidson, 1995).

Similar studies have shown that people having a parent who is an entrepreneur are more likely to express entrepreneurial intentions (Krueger, 1993a; 1993b; Scott and Twomey, 1988). Other studies have found a positive effect of parents being self-employed on the likelihood of their children becoming involved in entrepreneurial activities (Buther and Herring, 1991).

FAMILIAL

Family relatives also may serve as role models according to the social learning theory. Contacting them is an opportunity for acquisition of some of the skills and traits related to entrepreneurship (Landry, Allard, McMillan and Essiembre, 1992). Having kin relations in the world of business might provide new-comers some kind of training or apprenticeship to develop a taste of self-employment.

2.2.2.3 Reference Group

In collectivist societies, people distinguish themselves by a tight social framework (Hofstede, 2001). Members within a cultural grouping (e.g. family, organization) express a degree of loyalty to the group; in return the group will look after them.

This culture dimension is introduced in this study because family historically represents a fundamental form of social organization. Additionally, considering the family firms as an organizational form, they represent a dominant form of enterprise world-wide (Mustakallio and Autio, 2001). The family is considered as a support network for entrepreneurship in three ways:

First, family members constitute an unpaid or underpaid labor force that decreases costs of business operation at the formative stage.

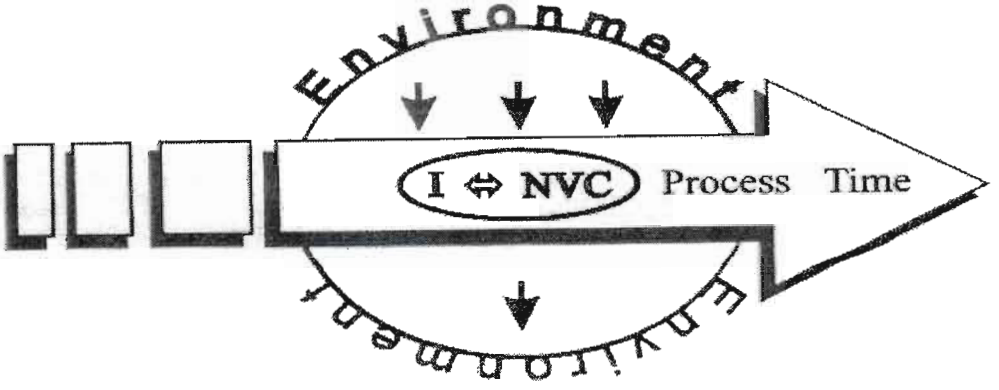
Second, by pooling resources for start-ups, family members facilitate the take-off of the business. The presence of close relatives in the world of business, not only provides role models to be initiated, but might provide the beginner with access to information (Butler and Herring, 1991) and help him/her in the qualitative aspect of entrepreneurship (access to information and social networks).

Third, since access to start-up capital is a major determinant of business ownership (Evans and Jovanic, 1989), asset accumulation within the family becomes an important factor to finance the start-up process. Capital can be generated from several sources, but most of the start-up capital is generated by owner's saving and loans from friends and relatives (Birch, 1987; Yoon, 1991). Equity constitutes another form of wealth, and lacking equities within the family to be used as collateral for loans would diminish the borrowing capacities, thus limiting economic opportunities.

2.2.3 Environmental Dimension

Many authors have found that projects change significantly even in their early stages of formation (Vesper, 1989; Woo, Cooper, Nicholls-Nixon and Dunkelberg, 1990). The system is an open system that interacts with its environment. It can also be stimulated by it or by the elements with which it interacts (network, communities, agencies, etc ...) (Johansson, Karlsson and Westin, 1994). The object studied here is the entrepreneurial system which is formed by the dialogic (individual (I) $\leftrightarrow$ new value creation (NVC)). These two entities interact with the environment within the process and across time as seen in Figure 2.8.

Figure 2.8 The Entrepreneurial Process Located Within its Environment and Time.



Source: Bruyat and Julien (2001).

The diagram shows the main aspects of the phenomenon as identified by several authors (Gartner, 1985): the individual, the object created (organization/innovation), the environment and the process.

A large number of studies concerning the relationship between the environment and organization have been carried out. Advocates of the so-called demand perspective do not deny the role played by the founder's characteristics but propose that the environment is more important in understanding organization formation (Peterson, 1980). This approach considers that the new firm has a central place in economics, and it represents a real or perceived threat to firms currently producing goods and services within the given industry.

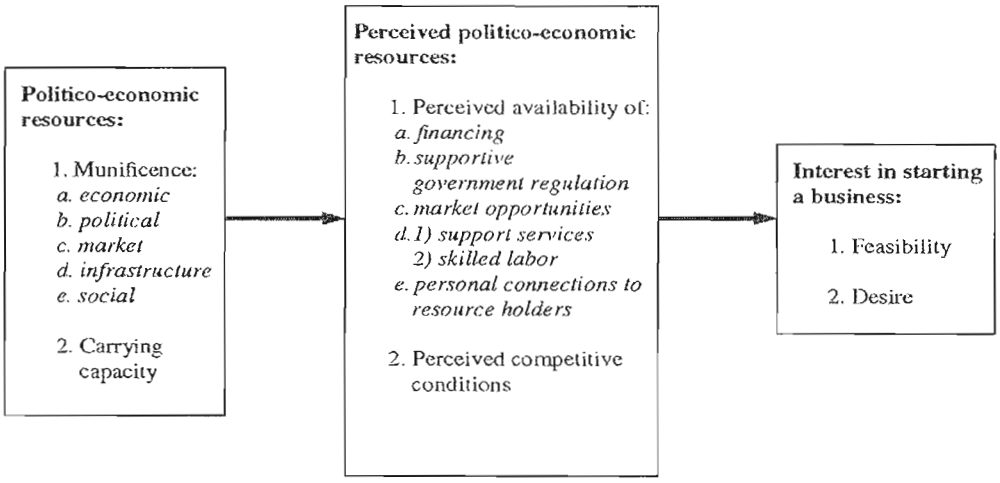
Most of the studies in the field rely on environmental characteristics to explain start-ups. According to the dependence theory, the new firm needs some external resources and information to emerge. Specht (1993) identified the environmental munificence and carrying capacity as critical predictors of new firm formation rates. Munificence is the degree of resource abundance, while carrying capacity is the number

of organizations competing for the same resources in a niche. In her Scheme, Specht identifies five factors affecting organization formation:

- Political
- Economical
- Social
- Market emergence factors
- Infrastructure development

Detailing the implications of Specht's model for individual-level decision makers, we expect that the perceived environmental munificence and carrying capacity to be linked to potential entrepreneurs' interest in starting a business (Birley and Westhead, 1993). As shown in Figure 2.9, Bruyat and Julien (2001) found that the perceptions of the politico-economic environment influence the interest in starting a business.

Figure 2.9 Model of the Relationship between Environmental Dimensions and Interest in Business Start-Up



Source: Bruyat and Julien (2001).

We can conclude that individuals are more susceptible to the perceived conditions then they are to the real conditions objectively (Davidson, 1991). Fig. 8 also shows the principal environmental resources and constraints such as availability of financing capital, supportive government policies, market opportunities and infrastructure.

Four categories define the environmental dimensions of this research:

- Political
- Economical
- Social
- Resources

2.2.3.1 Political

In order to promote entrepreneurship, a political system needs to be built on freedom of choice, individual rights and democratic rules (Friedman, 1982). The actions or inactions of governments can influence tremendously the course of entrepreneurship in a country. Taxation rates, licensing policies and other regulations can have an impact on entrepreneurship.

A country's tax structure must be well defined to emphasize social objectives towards new economic activity, social security, public expenditure and social equality (Baughn and Neupert, 2003). High payroll taxes create a high demand for capital that would diminish the hiring of new employees and the growing of firms.

To encourage risky activities and innovation, the potential entrepreneur needs to feel safe and protected. Regulatory systems need to recognize the corporate form, allow limited liability, protect the contract and the intellectual property rights, ensure fair treatment of bankruptcy, restrict monopolistic practices and implement law enforcement.

Entrepreneurial activity requires a supporting legal framework, including well defined protective laws. The amount of legislation, however, does not predict the fairness or the impartiality of these laws. Well-defined legislative rights and impartial enforcement of contracts need to be implemented. These measures may be a potential source of economic development (Olson, 1992).

Furthermore, the lack of legal protection increases the risk associated with new venture creation, pushing the loaning capital to demand rates of interest that are not affordable for nascent entrepreneurs. Also, if the lender has not enough legal protection to enforce loan payments, he would not be encouraged to provide funds for venture formations. Effective systems require contract enforcement and strict rules determining who bears what risks (Stiglitz, 1992). At the same time the rules and the procedural requirements need to be easy enough not to discourage potential entrepreneurs by requiring thousands of documents that are time and money consuming.

Bureaucracy in the form of excessive rules and procedural requirements, several institutions from which multiple documents need to be approved may harm entrepreneurial activity. The time and money required to cover such expenses may discourage new venture creation (Lee and Peterson, 2000).

Political stability might be a major hinder of entrepreneurial activities. If the chances are high for certain disturbances to occur in the streets, or for potential terror activities to take place; then, the national security would be in jeopardy, and the risk of the country would be eminent; thus, preventing future possible entrepreneurs from engaging in activities leading to business start-up.

2.2.3.2 Economical

Societies that are stagnating economically offer limited market incentives, and the level of capital accumulation is too low to enable entrepreneurs to benefit from the existing limited opportunities. Also, the degree of inflation, market demand, and the availability of raw materials, the easy access to suppliers and the facility to import essentials from abroad are relevant for the emergence of entrepreneurship (Kilby, 1971).

Regardless of the potential economic obstacles to entrepreneurship, the globalization of the world economy has helped in decreasing many national barriers. In fact, it paved the way to unlimited possibilities for entrepreneurial venues. For example, in high-tech areas such as software engineering and development, and the multiple internet-related businesses, the exchange of products and capital flow has been tremendous recently; thus, multiplying the opportunities for those who seek one.

Furthermore, Morris notes that as more and more economies ensure scare economic resources allocated to value creating activities, allow for freely fluctuating prices, encourage private entrepreneuring, and offer high profits, entrepreneurial development will come about rapidly (Morris, 1998).

Concerning the availability of supporting services, this factor affects an organization during the operational stage more than how it affects it during its formative stage or prior to that (during the intentional period). Nevertheless, the influence exists anyway. These services are provided by professionals such as accountants, tax experts, lawyers and consultants specialized in any field pertaining to new ventures and small businesses.

> "... These advisors understand the typical problems present in starting a new enterprise. They help entrepreneurs overcome many of the initial stumbling blocks to successful new venture initiation. One area in particular in which expert advice could be of great help is in the preparation of a prospectus for financing purposes... Another area providing a source of trouble to successful new venture initiation is knowing how much capital to seek at the outset". (Naumes, 1978).

The existence of supporting services would ensure a safer initiation of the process of venture formation. The potential entrepreneurs have a perception that competitive conditions affect their interest in starting a business. The high rates of business failure reported frequently and the risk to family well-being to be in jeopardy would make people obviously conscious of the environment's danger. Perceived environmental opportunity tends to play a role opposite to that of macro-economic principles concerning competitiveness (Begley, Tan and Schoch, 2005). While economists consider competitiveness as a positive factor, the individuals who are interested in starting a business are more inclined to regard it as detrimental to their chances for success. Instead, signs of expansion possibilities of the industry should be perceived as favorable conditions.

2.2.3.3 Social

Berger found that countries that are based on PWE (Protestant Work Ethic) influence the emergence of entrepreneurial culture because they encourage hard work and thrift and they strive for material advancement and individual accountability; they encourage also self-regulations and personal drive (Berger, 1991).

Networks usually place the entrepreneurs in a good position within the social context. The entrepreneurs are inclined to build for themselves an informal network (family, friends, and businesses) which aid them in related activities and help them to remain in a favorable situation. Due to the fact that opportunities come most frequently to people located at advantageous positions within networks (Aldrich and Zimmer, 1986), the entrepreneurs will be among the few that catch the opportunities.

At the same time this behavior will encourage within the national setting, proactive and sometimes aggressive search to find opportunities that require the acquisition of important resources (human, capital, marketing and technical information, etc ...).

2.2.3.4 Resources

INVESTMENT CAPITAL

Venture funding is one of the most important entrepreneurial obstacles (Green, 1948), especially because the capital required to finance an entrepreneurial opportunity may be much larger compared to the entrepreneur's personal wealth. The entrepreneur, therefore, needs to search for other sources (e.g. relatives, friends, personal social networks, banks or credit agencies) that are willing to share the risk with him.

Banks and agencies can influence the formation of start-ups through their procedures (that require sometimes an additional third party as a sponsor or that includes specific terms and conditions) for approving loan applications or other funding. As elaborated by Casson an inappropriate financial policy by agencies can harm entrepreneurial activity even in environments with excellent and suitable macro-economic conditions (Casson, 1995). These agencies might put an extremely difficult system for loan applications that discriminate between applicants. In that case, a large number of potential entrepreneurs will be rejected and their entrepreneurial dream will end then.

On the other hand, as Schumpeter argued, it is the capitalist financing the venture, not the entrepreneur who is involved in the risk taking (Schumpeter, 1934). If there is not legal protection or legal means to force people to pay their loans, then the lending agencies will be reluctant in supplying the capital needed.

In order to promote the entrepreneurial spirit within a community, a fair system (that reflects the actual macro-economic demand and supplies conditions) of loan application should be implemented. Parallel to that, an effective system that ensures the repayment of the loan and protects the rights of the lender should take place.

LABOR SKILLS

We cannot encourage entrepreneurial activity without the involvement of a professional or technically skilled labor force. The presence of skilled labor in a particular area would facilitate the formation of new companies.

Hock concluded that low levels of education, literacy, and per capita investment in education led to a decrease in the pool of skilled workers in South Asian countries. This scarcity would limit the chances to start a new business (Hock, 1996).

As a conclusion, the empirical research carried out in the field of entrepreneurship lead us to confirm that the intention to start a business in the future is dependent upon three large categories of variables:

1- Variables related to the individual: They include cultural, personal value and personality traits. In addition, other socio-demographic variables seem relevant as well.
2- Variables related to the organization: They are variables pertinent at this point of the process; the intentional stage.
3- Variables related to the environment: they include political, financial and social factors.

In chapter III, we will explore the different entrepreneurial intention models in order to build-up our conceptual framework.

CHAPTER III

MODEL DESIGN AND HYPOTHESES

The literature review conducted in chapter II has revealed that the intention to start a business is dependent on three different types of variables: Individual, Organizational and Environmental. Under this chapter, we investigate the theory-driven models of intentions and the entrepreneurial intention model. Then, based on these models we build our conceptual framework and formulate our hypotheses.

In section 3.1, we define the research problem and in 3.2 we explain the purpose of the study.

In section 3.3, we describe the different approaches to entrepreneurship and in 3.4; we reiterate how the entrepreneurial activity is considered an intentionally planned behavior.

In section 3.5, we detail the theory-driven models of intentions; Shapero's model of the entrepreneurial event (SEE) (Shapero, 1982) and Ajzen's theory of planned behavior (TPB) (Ajzen, 1991). Moreover in 3.6, we examine the entrepreneurial intention model specifically Bird's model of entrepreneurial intentionality (Bird, 1988) and its new version with Boyd and Vozikis (1994).

In section 3.7, we build our conceptual framework based on the above theories and models and in 3.8, we formulate our hypotheses accordingly.

3.1 PROBLEM DEFINITION

What are the distinguishing determinants behind the intention to enterprise in Lebanon? Can specific common attributes be identified amongst university students who intend to start a business? And if so, what are the perceived organizational and environmental factors that might inhibit or encourage such entrepreneurial behavior?

Very few studies have been carried out on Lebanese entrepreneurs. These studies have focused on the entrepreneurs actually working in a new business and have ignored persons who still are in the pre-start-up phase. The latter are in the intentional stage, investigating the idea of starting a company. Specifically, students have seldom been explored as entrepreneurial subjects. Consequently, there is a lack of understanding on how public policy and universities can effectively develop future entrepreneurs and high-tech business founders.

It is apparent that the economic power in Lebanon, apart from a few sectors (for example fashion, jewelry, education, etc...), is mainly located in the distributive mechanism - where the key actors are importers, wholesalers, agents, franchise holders, service providers, and real estate speculators – rather than industrial, manufacture-oriented capitalism.

The majority of the Lebanese businesses are managed by one or two owners or partners with less than 15 full time employees. The businesses are typically family concerns, some of which extend to the second or third generation. With few exceptions, they have limited financial resources to support expansions and only a small minority is export oriented.

A large number of difficulties that the entrepreneurs face are related to government macroeconomic policies, the complexity of government administrative procedures related to the establishment and operating a business, the relative lack of

access to business information, and weakness in entrepreneurial development schemes, business counseling and training services.

The same type of difficulties will most likely face the potential entrepreneur who is planning to start-up a business in the future.

3.2 PURPOSE OF THE STUDY

The purpose of the present paper is to develop and empirically test an integrative model of the determinants of entrepreneurial intentions in the Lebanese context. The purpose is not so much to introduce entirely new insights in terms of new explanatory variables. Rather, the intended contribution is:

1- To integrate different types of determinants that have been used and discussed within various approaches into one model, thus making the assessment of their relative importance possible as well as their status as direct / indirect influences on entrepreneurial intentions in Lebanon.

2- To bring forth a new approach by focusing on university students as future entrepreneurs. Graduates in business and technical disciplines are more than others expected to found companies especially in dynamic and innovative areas.

3- To find out if the readiness to set up a business is shaped by the students' personality traits or by founding-related conditions. If it is the latter, then a change in these conditions should have an effect on the entrepreneurial intent. If it is the personality traits, than the change of these traits would be much harder and will take a longer time.

In both cases, the paper will provide some grounds for university policy makers and government agencies as to where additional effort should be exerted to improve education and training programs and to provide legal and financial infrastructure for potential business founders.

3.3 APPROACHES TO ENTREPRENEURSHIP

The entrepreneurial-traits school of thought approach, as described in the research overview chapter of this study, is a useful theoretical basis for research on the personality of the entrepreneur. Another way of studying the activities involved in entrepreneurship is through a process approach (Kuratko and Hodgetts, 1998). Three of the more traditional process approaches are the following:

- *Entrepreneurial Events Approach* (Bygrave, 1989): Focuses on the individual's initiative, organization of resources, administration, relative autonomy, risk taking, and the environment.

- *Entrepreneurial Assessment Approach* (Ronstadt, 1984): Stresses making assessments qualitatively, quantitatively, strategically, and ethically in regard to the entrepreneur, the venture, and the environment.

- *Multidimensional Approach* (Johnson, 1990): Deals with a complex, multidimensional frame work that emphasizes the individual, the environment, the organization, and the venture process, seen in Figure 3.1.

Figure 3.1 A Framework for Describing New Venture Creation

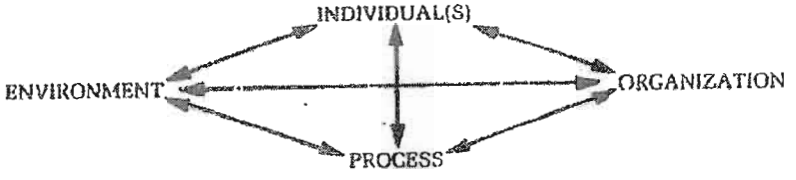


Figure 1. A framework for describing new venture creation.

Source: Gartner (1985).

Much of past research has been one-dimensional, focusing on a single aspect of new venture creation. The main issue has been to emphasize the difference between entrepreneurs or their firms and non entrepreneurs or non entrepreneurial firms. The general attitude was that all entrepreneurs and their firms are alike; the task of the one-dimensional research was to prove how all things entrepreneurial differ from all things non-entrepreneurial (Gartner, 1985).

A much different perspective is taken nowadays; there are many different kinds of entrepreneurs and many ways to be one and the firms they create vary as do the environments they create them in.

In this case, the question would be: How is each new venture creation different from another? Researchers need to think in terms of combination of variables that make up each new venture creation (Van de Ven, Hudson and Schroeder, 1984). New venture creation is a complex multidimensional phenomenon, where each variable describes only a single dimension of the phenomenon and cannot be studied alone. Entrepreneurs and their firms vary widely; their behaviors and the environments they operate in are equally diverse. It is not enough for researchers to try to find and focus on some concept of the "average" entrepreneur and the typical venture creation. New organizational forms

evolve through variation, and this variation in new venture creation needs to be taken into account (Aldrich, 1979).

Considering that this study covers the intentional process of new venture formation within a set of complex contextual factors, the framework used in this research is multidimensional; it describes the intention to start a business across three dimensions; the individual, the organization, and the environment.

3.4 ENTREPRENEURSHIP AS INTENTIONAL PLANNED BEHAVIOR

As explained in detail previously (research overview), there is enough evidence that much of what we consider entrepreneurial activity is intentionally planned behavior. Even in cases where a unique triggering event like being downsized or company closure may urge the individual to the entrepreneurial activity, there are most of the times symptoms of a long time interest and desire to be in business for one's self or to start-up a new company (Krueger, Reilly and Carsrud, 2000).

As new organizations emerge over time, pre-organizational phenomena such as deciding to initiate an entrepreneurial career are both important and interesting. We then conclude that intentionality is typical of emerging organizations although the timing to start the new venture can be unplanned such as when a new opportunity surfaces.

We are able to predict any planned behavior by observing intentions toward that behavior. Bagozzi, Baumgartner and Yi (1989) consider that intentions are the single best predictor of planned behavior. Understanding intentions thus seems to be very valuable, where the focal phenomenon involves a large number of variables – the entrepreneurship being the focal phenomenon (MacMillan and Katz, 1992).

Intentions predict behavior while certain specific attitudes predict intention. So, intentions serve as a conduit to better understanding the act itself (Ajzen, 1991). Of course, we should not neglect other antecedents, such as situational role beliefs, subsequent moderators, perceived availability of critical resources and others.

In order to understand the consequences of intentions (for example launching a new venture), we need to understand the antecedents of intentions. A big part of entrepreneurship is intentional and therefore the use of well prepared research, tested intention models should provide a good tool to examine the precursors to business start-up.

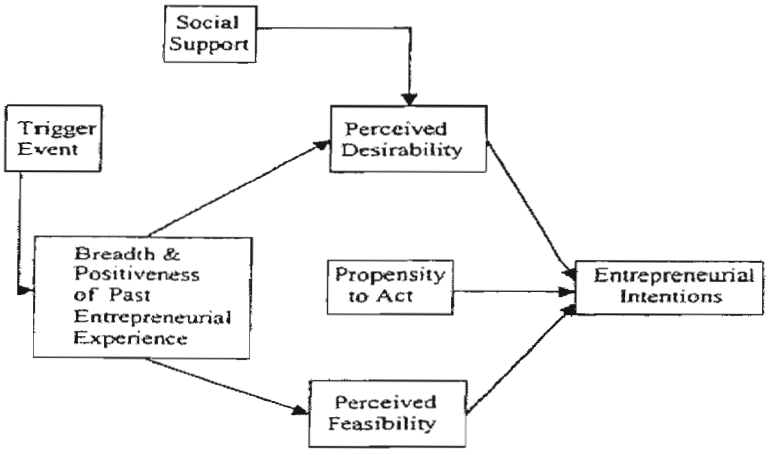
3.5 THEORY – DRIVEN MODELS OF INTENTIONS

There are two intention – based models in terms of their ability to predict entrepreneurial intentions: Shapero's model of the entrepreneurial event (SEE) (Shapero, 1982) and Ajzen's theory of planned behavior (TPB) (Ajzen, 1991).

3.5.1 Shapero's Model of the Entrepreneurial Event (SEE)

In the SEE, intentions to start a business derive from perceptions of desirability and feasibility and from a propensity to act upon opportunities, illustrated in Figure 3.2.

Figure 3.2 Shapero's Model of the Entrepreneurial Event (1982)



Source: Shapero (1992).

Shapero's model assumes that someone's behavior is more or less in a status-quo until something interrupts or displaces the states-quo. The displacement alters the behavior and the norms and values in which decisions are made. The choice of an alternative (self- employment, starting up a company, etc...) depends on other alternatives and the propensity to act (Katz, 1992). Displacement is often negative, such as job loss or divorce, but it can easily be positive, such as getting an inheritance or winning the lottery.

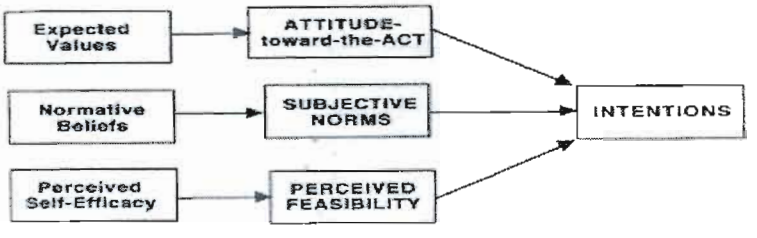
According to Shapero, it is not the entrepreneur that has changed but the perceptions of the facts. The individual already exhibited a potential to become an entrepreneur, but it required something to trigger that potential to surface (Krueger and Brazeal, 1994). In other words, general readiness becomes a predisposition to initiate a venture when the individual experiences a precipitating event. However, this predisposition turns to action only when the individual perceives the right opportunity and can assemble the financial and other required resources from a supportive environmental infrastructure (Shapero, 1982). Exogenous influences do not directly affect intentions or behavior.

3.5.2 Ajzen's Theory of Planned Behavior (TPB)

In the field of social psychology, we find intention-centered theories of planned behavior. The main argument is that intentions are the simple best predictor of planned behavior. Intentions formation depends on attitudes toward the target behavior which, in turn, reflect beliefs and perceptions. Therefore, planned behaviors such as starting a business are intentional and thus are best predicted by intentions toward the behavior, not by attitudes, beliefs, personality or demographics. On the other hand, intentions are best predicted by specific attitudes (Krueger and Carsrud, 1993), and intentions lead to a cognitive process which channels beliefs, perceptions and exogenous factors into the intent to act (Ajzen, 1991).

When designated individuals encounter a situation that interacts positively with their traits and background factors, they will develop the intentions to start a business. The theory of planned behavior (Figure 3.3) suggests that behavior is predicted by behavioral intentions, which are a function of individual attitudes toward the behavior, a subjective norm, and perceived behavior control (Ajzen, 1991).

Figure 3.3 Ajzen's Theory of Planned Behavior



I translate the three key attitudes as predictors for the intention towards entrepreneurship as follows:

1- *Attitude toward entrepreneurship* includes beliefs about the likely outcomes of starting a new company and the evaluation of these outcomes.

2- *Image of entrepreneurship* is the subjective norm that includes beliefs about the normative expectations of others and motivation to comply with these expectations.

3- *Perception of behavioral control* includes beliefs about the presence of factors that may facilitate or impede performance of stating a new company, and the perceived influence of these factors.

As a rule, the more favorable the attitude and subjective norm, and the greater the perceived control, the stronger the person's intention toward entrepreneurship is expected to be.

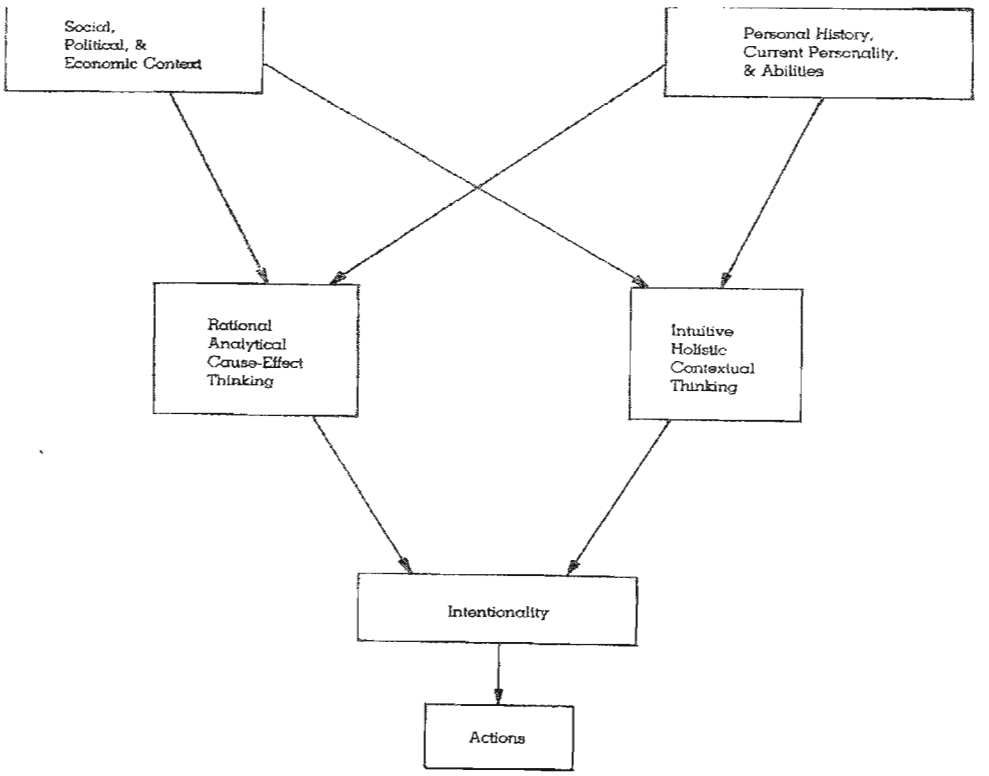
Besides the three key attitudes, the intention towards entrepreneurship is also determined by the individual's personal background and personality traits. These traits are believed to have an indirect effect on the intention and are mediated by attitude, subjective norm and perceived behavioral control (Davidson, 1995).

3.6 ENTREPRENEURIAL INTENTION MODEL

It is very obvious from the literature review that entrepreneurial activity does not occur in a vacuum. Instead, it is to a large extent embedded in a cultural and social context, in the middle of a web of human networks that are both social and economic (Reynolds, 1992). Ajzen's theory of planned behavior and Shapero's model of the entrepreneurial event have provided the researcher with a wider perspective of entrepreneurship.

Bird's model of entrepreneurial intentionality (Figure 3.4) is another attempt, based on grounded theory in cognitive psychology, to interpret or predict human behavior (Boyd and Vozikis, 1994). Bird defined intention as a state of mind directing a person's attention toward a specific object or path in order to achieve a goal. Her model of intentionality is behavioral and attempts to guide attention to how entrepreneurs create sustain and transform organizations (Bird, 1988).

Figure 3.4 The Context of Intentionality

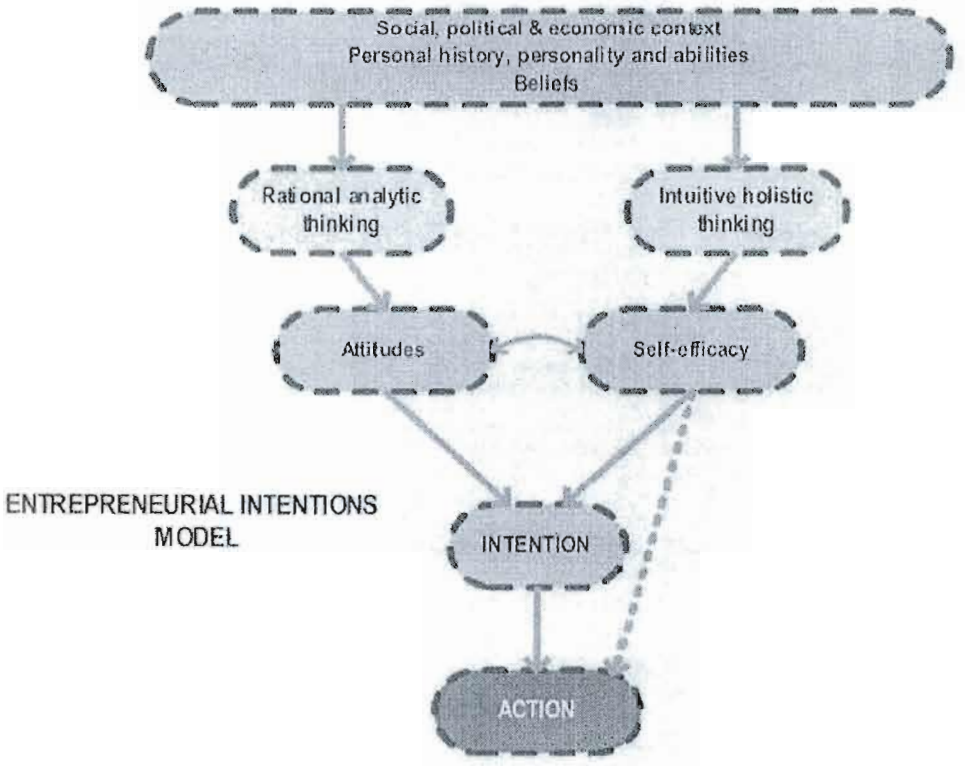


Source: Bird (1988).

According to Bird's framework, individuals are predisposed to entrepreneurial intentions based upon a combination of both personal and contextual factors. Personal factors include an individual's personal history, personality and abilities. Contextual factors of entrepreneurship include social, political, and economic variables such as displacement, changes in markets, and government deregulation. Bird argued further that intentions are structured by both rational / analytic thinking (goal – directed behavior) and intuitive / holistic thinking (vision). These thought processes underlie the creation of formal business plans, opportunity analysis, and other goal-oriented behavior. Entrepreneurial intentions, which are the results of either rational, analytic and cause-effect thinking processes or intuitive, holistic thinking, involve a state of mind that directs and guides the actions of the entrepreneur towards the implementation of recognized opportunities and new venture creation process.

Boyd and Vozikis (1994) extended Bird's model in Figure 3.5 by including antecedent factors that explain the strength of the relationship between intentions and behavior. Self-efficacy belief construct has been included in the new proposed model. The revised model takes into account Ryan's argument that human behavior is affected by conscious purposes, plans, goals or intentions. Intentions are based on perceptions and anticipations of future outcomes (Ryan, 1970). Perceived situations, expectations, attitudes, beliefs influence the development of intentions and these perceptions are further influenced by personal historical factors.

Figure 3.5 Graphical Illustration of the Entrepreneurial Intentions Model



Source: adopted from Boyd and Vozikis (1994)

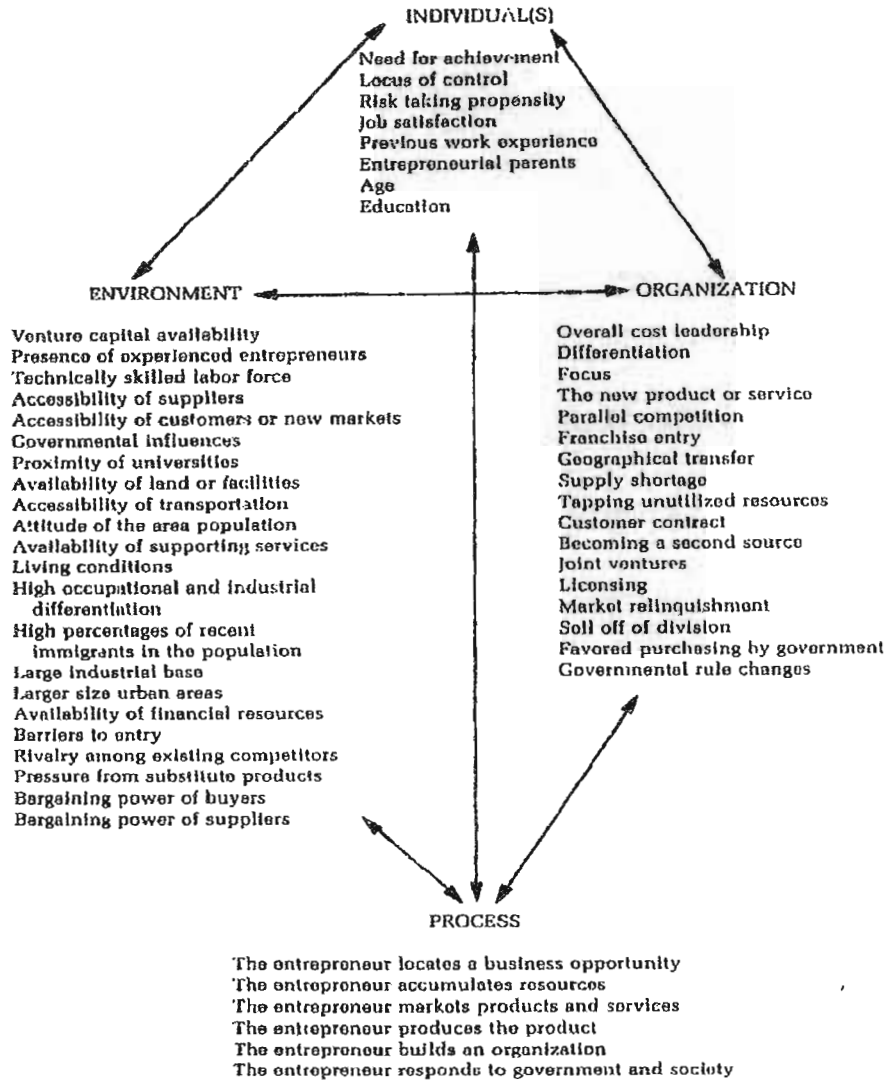
Consistent with Ajzen's theory of planned behavior, attitudes toward entrepreneurship and perceived self-efficacy beliefs concerning the likelihood of success or failure will subsequently influence the development of entrepreneurial intentions. The revised model suggests that perceived self-efficacy will moderate the relationship between the development of entrepreneurial intentions and the likelihood that these intentions will result in entrepreneurial behavior. This means that a person will only initiate entrepreneurial actions when self-efficacy is high in relation to the perceived requirements of the specific opportunity.

3.7 CONCEPTUAL FRAMEWORK

As shown in the research overview, both personal characteristics and environmental influence play a central role in the start-up process. Gartner (1985) proposed a conceptual framework of new venture creation that describes the process as an interaction of the environment, the individual, the organization, and entrepreneurial behavior (process), suggested in Figure 3.6.

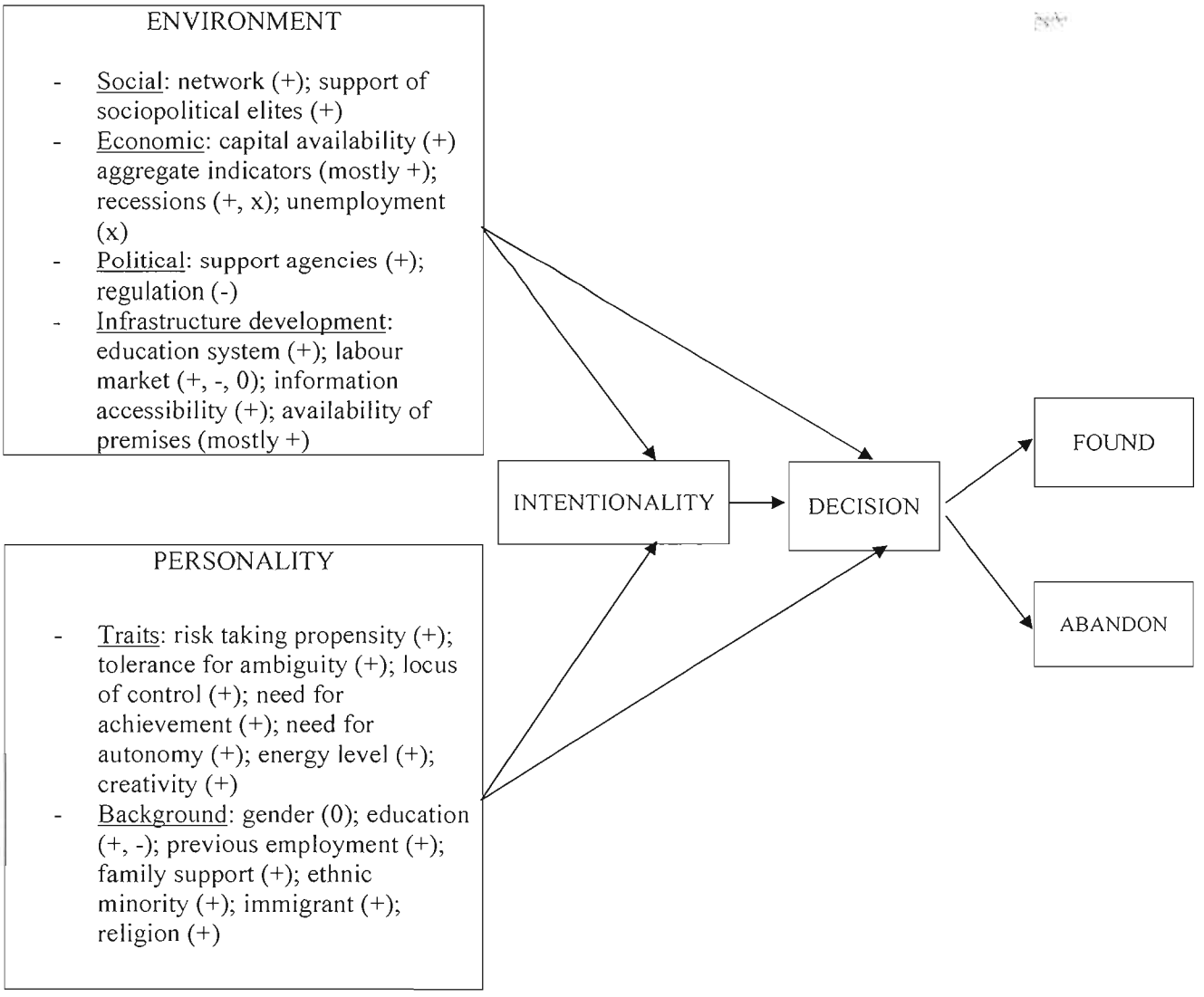
Bird notices also that both personal characteristics and environmental factors define entrepreneurial intentionality. Figure 3.7 illustrates a modified version of Bird's conception of the context of entrepreneurial intentionality. Bird further suggests that entrepreneurial intention directs critical strategic thinking and decisions, and operates as a perceptual screen for viewing relationship, resources and exchanges (Bird, 1988).

Figure 3.6 Variables in New Venture Creation



Source: Gartner (1985).

Figure 3.7 A Model of Organization Formation



Source: Mazzarol, Volery, Doss and Thein (1999)

However, all of these studies have confined themselves to an examination of existing entrepreneurs; they have ignored a large pool of prospective entrepreneurs. I am suggesting through this study to investigate only potential entrepreneurs and specifically Lebanese university students.

My framework in Figure 3.8 integrates the individual traits, the organizational and the environmental factors into a structural model of entrepreneurial intent. The "process" which is the 4th dimension in Gartner's (1985) model has been excluded, because I consider that my research extends back to the pre-nascent stage. At this stage, students have not yet reached the point of planning to start a business but are rather assessing their level of interest in doing so; their question is not how, but whether to start a business.

3.7.1 Dependent Variable

Intention to start a business can be viewed as a person's inclination or tendency to behave in an entrepreneurial way. It is closely related to entrepreneurial spirit and a selective instinct for entrepreneurship.

The decision to start a new business is normally planned for some time before actual activity. Therefore, this decision is preceded by an intention to do so. However, sometimes this intention is formed only shortly before the decision and in some cases the intention never leads to actual behavior. So, entrepreneurial intentions are assumed to predict, although not perfectly, an individual's choice to found his own company.

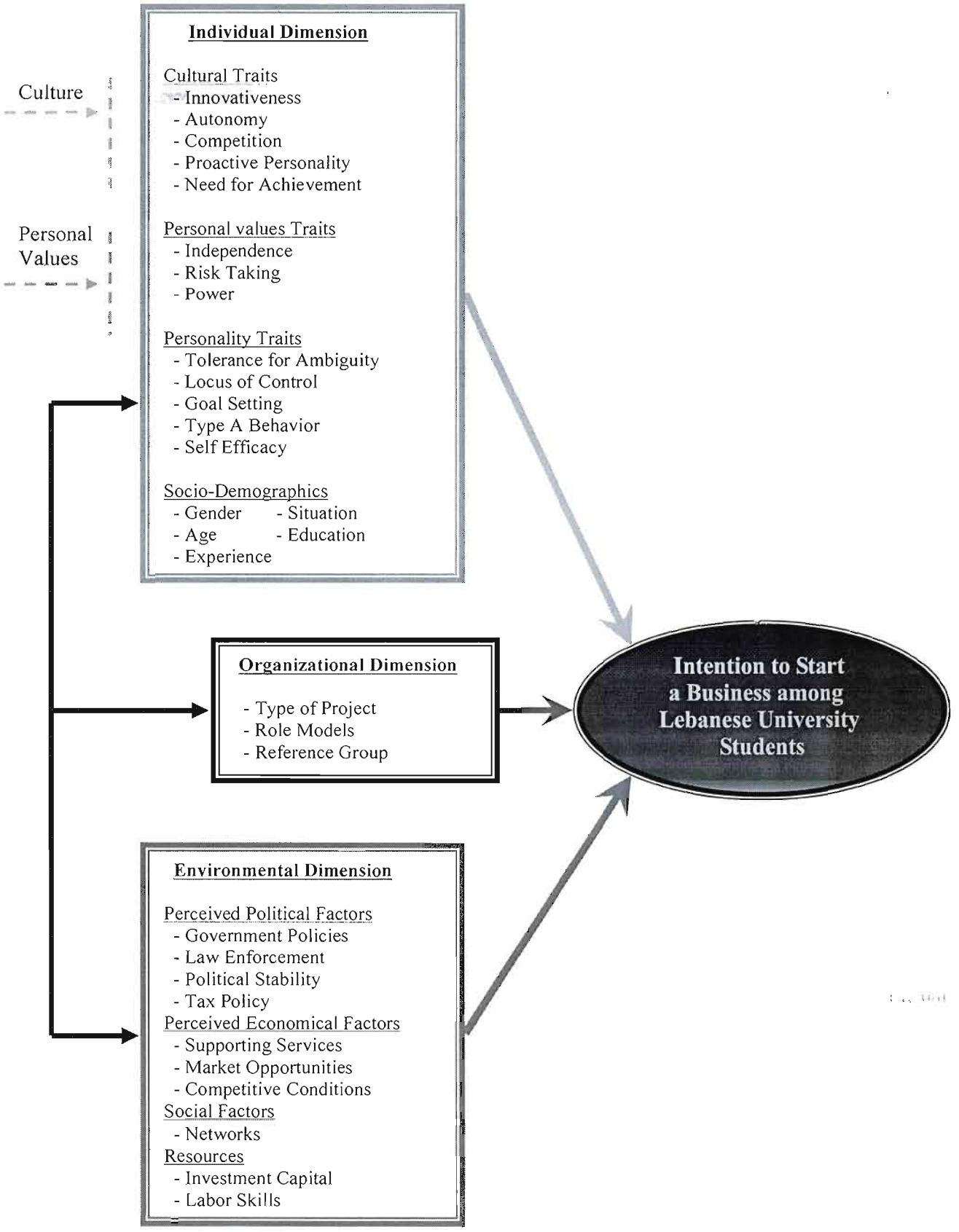
In this model, the intention of starting a business was chosen as the dependent variable.

3.7.2 Independent Variables

Following an extensive literature review and my personal experience with Lebanese entrepreneurs, I have included in my model 17 individual, 3 organizational and 10 environmental variables.

All 30 variables are expected to reveal a causal effect on entrepreneurial intention; therefore, they should determine whether students decide in a positive or negative way concerning their intention to start a business.

Figure 3.8 Determinants of Entrepreneurial Intentions in Lebanon Conceptual Framework



3.7.2.1 Individual Variables

The individual variables have frequently been enumerated as part of the personality of new venture creators and have proven their importance in affecting the level of aspiration towards starting-up a business. The individual variables were divided into 3 subgroups:

-a- CULTURAL TRAITS

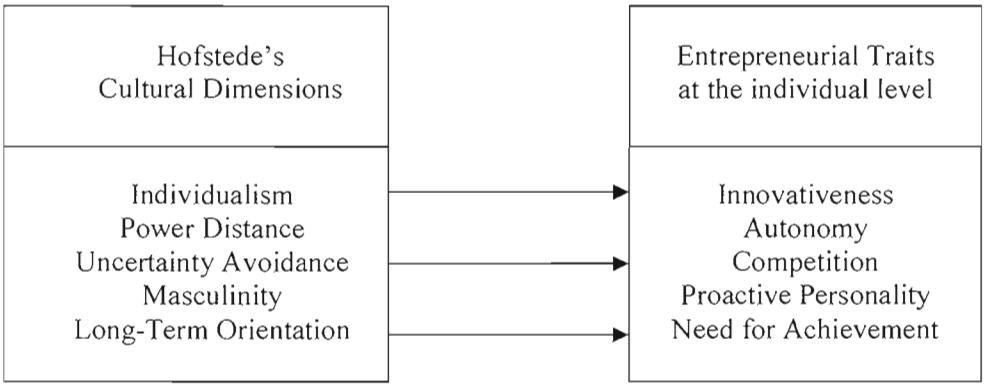
As shown by Lee and Peterson entrepreneurship appears to be more compatible with some cultures than others (Lee and Peterson, 2000). Other research focused on conditions fostering the abundance of individuals with an entrepreneurial orientation in a given society. Factors such as need for achievement (McClelland, 1961), and innovation (Schumpeter, 1934), address key supply conditions as they are posited to shape individual traits. McGrath found that values held by individuals starting their own business were related to the four dimensions identified by Hofstede (McGrath, 1992).

Although my work does not study the link between culture and the entrepreneurial traits of individuals, I acknowledged the associations of Hofstede's cultural dimensions with a set of entrepreneurial traits, shown in Table 3.1, at the individual level. This association has been demonstrated in several studies as detailed above and in paragraph 2.2.1.1.

There may be a link between culture and many more entrepreneurial traits, but I only included the ones that received particular interest from researchers.

Table 3.1

Hofstede's Cultural Dimensions with a Set of Entrepreneurial Traits at the Individual Level



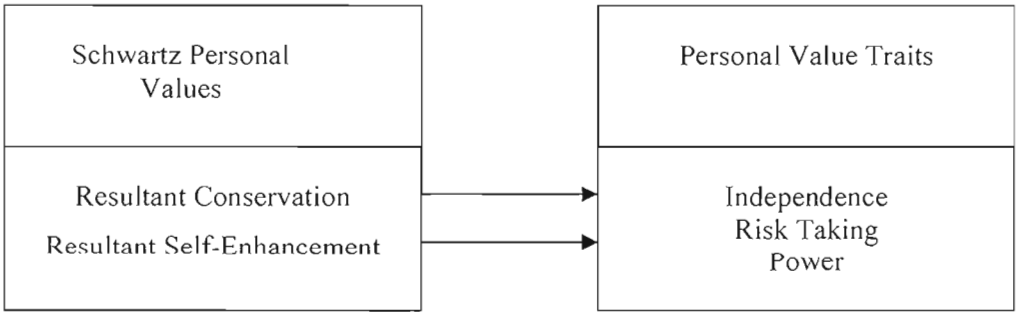
-b- PERSONAL VALUES TRAITS

Values may be defined as beliefs that pertain to desirable end-states or modes of conduct, transcend specific situation (for example, entrepreneur-related contexts), pave the way to select and evaluate conduct or behavior, and are categorized by importance compared to one another to form a system of value priorities (Rokeach, 1973).

Schwartz (1992) has developed the Schwartz Value Survey (SVS): He has linked the four polar dimensions of his continuum to 10 main value types and associated the latter to a set of 56 motivational types of values. These types of values were found to exhibit a high level of consistency in motivational meaning across cultures and were recommended for cross-national research (Schwartz and Sagiv, 1995).

Since entrepreneurship studies are limited to the 2 polar dimensions as shown in Table 2.4, only 19 motivational values are of concern to my research. Three value traits that are considered to be entrepreneurial traits according to the literature review were included in the conceptual frame: Independence, risk taking and power, shown in Table 3.2.

Table 3.2
Schwartz's Personal Values and 3 Personal Value Traits



-c- PERSONALITY TRAITS AND BACKGROUND FACTORS

Early research in entrepreneurship focused on the entrepreneur. It tried to determine what personality characteristics distinguished entrepreneurs from non-entrepreneurs and examined the influence of these characteristics on organization formation rates. Tolerance of ambiguity, locus of control, goal-settings, type A behavior and self-efficacy have been identified and examined as possible traits associated with entrepreneurial behavior.

Several other background factors related to individual personality such as gender, age, education, experience, and situation have been used in many studies and may have some validity in differentiating among types of entrepreneurs.

The combination of psychological traits interacting with background factors makes some individuals more likely entrepreneurial candidates than others.

3.7.2.2 Organizational Variables

The success of a firm depends upon the commitment of top management in taking the firm through the entrepreneurial process. The process consists of the stages involved in moving, from identifying an opportunity to defining a business concept, assessing

resources requirements and acquiring those resources, and managing and harvesting the venture (Stevenson, Roberts and Grousbeck, 1989).

At a university level, the potential entrepreneur has not yet started the process; therefore entrepreneurial intentions might be viewed as the first step in an evolving, long-term process.

The organizational variables that seem adequate to this stage of the process are limited in this study to three: Type of the project, role models and family business. These variables have an important potential to influence the students' entrepreneurial intentions.

Gartner was one of the researchers that began to use type of firm as one of the dimensions that influence new venture creation (Gartner, 1982). Role models have been used as independent variable by multiple studies conducted by Davidson (1995) and Cooper (1970) in the field of launching new ventures.

The presence of partners is another firm characteristic suggested by Timmons, Smollen and Dingee (1977) as a vital factor in starting certain types of firms. Only one aspect of partners, which is manifested in "family businesses", has been studied in this research.

3.7.2.3 Environmental Variables

The starting point in entrepreneurship is not necessarily a product or a service to sell, it is an opportunity, and opportunities are rooted in the external environment (Morris, 1998). The level to which cultures nourish the development of a strong entrepreneurial tendency within potential entrepreneurs depends on a large variety of environmental conditions.

My model presents the direct impact of the perceptions of contextual factors (support and barriers) on entrepreneurial intentions. Therefore, the environment is assumed to be responsible for the lack of a perfect attitude-intention correlation. A student might be willing to found a company, regardless of his/her bad attitude towards entrepreneurship, because he/she perceives that surrounding conditions as favorable (trigger effect). On the contrary, graduates with positive attitude towards new venture creation may not achieve their plans due to a negative perception of environmental factors. Such studies of contextual influences on the attitude-behavior relationship were conducted by Abelson (1982).

According to Covin and Slevin (1991), the external environment provides the broader context for the organizations. For example, a hostile external environment may decrease the level of capital investment, place fiscal and regulatory barriers and therefore impedes the rise of entrepreneurial spirit (McClelland, 1976). A favorable external environment however will encourage entrepreneurial potential.

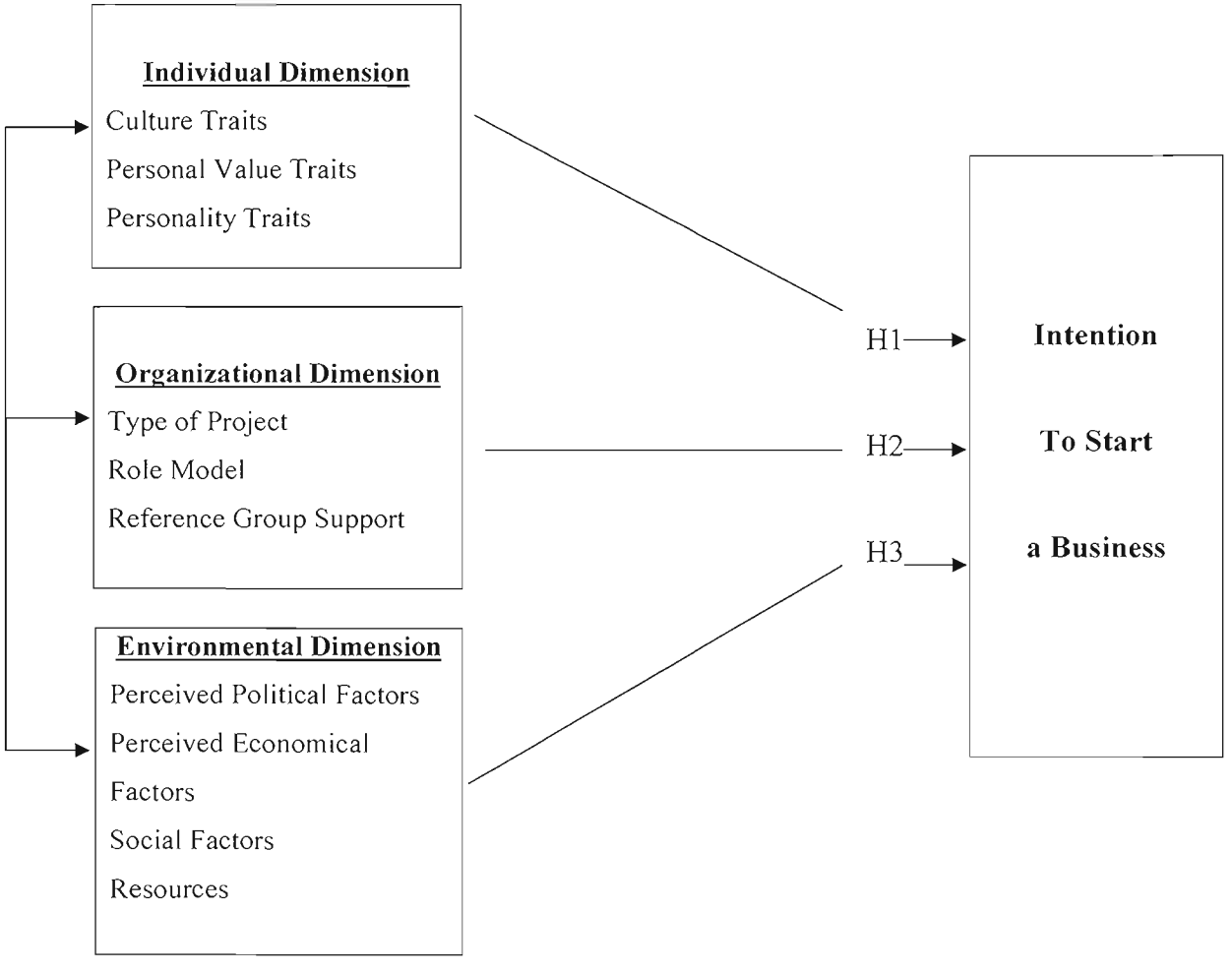
The environmental dimension in my study includes political / legal, economic and social forces, and availability of resources represented by 10 different variables. Those variables were chosen from a large pool of environmental factors, due to their long record of association with entrepreneurship activities.

3.8 FORMULATION OF HYPOTHESES

An individual's intention to start a business can be described as a composite of his/her personality and psychological characteristics that is influenced by contextual factors and manifested in observable planned behavior. Intention may be defined as a function of the interaction between the individual, the organization and the environment.

In order to evaluate the causal relation between the independent factors and the propensity to start a business, we have formulated three general hypotheses that are applicable to the three different dimension variables as proposed in our conceptual framework p.76 (Figure 3.9).

Figure 3.9 Hypotheses



Hypothesis 1 studies the link between the individual characteristics of the Lebanese engineering and business students and the intention to start-up a business. The individual characteristics include as per our conceptual framework: 1- The cultural traits,

2- The personal value traits and 3- The personality traits. This hypothesis is translated as follows:

H 1a: There is no link between the individual characteristics of the Lebanese students and the intention to start-up a business.

H 1b: The individual characteristics of the Lebanese students are positively related to their intention to start-up a business.

In other words, the more innovative, the more competitive, the more independent, the more the risk taker, the student is, the more his/her inclination would be to start a business in the future.

Hypothesis 2 concerns the link between the organizational factors and the intention to start a business. In our model, we found that the three determinant factors that might be relevant at this period of the student's life are: Type of the project, role models and reference group support. At this stage, the student is still dreaming to materialize his project. We do not have true organizational factors per se. Therefore, hypothesis 2 is defined through two possibilities:

H 2a: There is no relation between the organizational factors and the intention to start-up a business among Lebanese engineering and business students.

H 2b: The organizational factors have a positive influence on the students' decision to start a business.

We expect to find that the students are inclined to certain type of projects; that encourage them to engage in a business activity. Also, we expect to find that the support (wealth, connections, experience, etc...) of the reference group, as well as the influence of a role model, would have a positive effect on the students' intention to start a business.

Hypothesis 3 is related to the relation between the environmental factors and the propensity among Lebanese engineering and business students to enterprise. The environmental dimension in our model includes the political, economical, social and resources factors.

H 3a: There is no connection between the environmental dimension and the propensity among the Lebanese students to enterprise.

H 3b: The political, economical, social and resource factors are related to the students' propensity to enterprise.

Factors such as taxation rates, bureaucracy, interest rates and competitive conditions are expected to have a negative influence on students decision to enterprise, while factors like political stability, availability of funds from family/relatives/friends, social connections and skilled labor are expected to have a positive influence on the students' decision to start a business.

Now that the conceptual framework is built and the hypotheses are formulated, we will choose in the next chapter the sampling method, put the procedures of data collection and develop a questionnaire to measure the existing relation between our set of variables and the intention to start a business.

CHAPTER IV

RESEARCH METHODOLOGY

This chapter concerns the different phases of data collection and the tools used in order to maximize the efficiency of the process.

We explain in detail why university students were selected for this study, and how we built our survey instrument based on questions taken from internationally proven reliable scales. Then, we describe the procedures of data collection and list the encountered difficulties during the survey.

4.1 SAMPLING METHOD

University students were selected as subjects for this study for many reasons. We believe that today's university students represent a significant share in the group of potential entrepreneurs in the developing countries. Due to the increase in demands of technology and global competition, the need for university-trained entrepreneurs is becoming more evident, and the success in starting and running businesses will increasingly be dependent upon the founder's education background and training.

Furthermore, sampling students in business and engineering schools enhances educational comparability by effectively controlling important differences such as courses, training, and work experience. We were able to find out whether the fact that business students take courses related to management, economics and accounting that bring them to become familiar with the business environment, makes a difference?

The targeting of BA, MBA, BS and MS students, allowed us to find out whether the years of education and a potential of work experience had an impact on the students' intent to start a business. The universities chosen have English as the primary teaching language; so the students did not have big difficulties interpreting the questions, and consequently, language errors were minimized.

Two universities were selected for this study. The universities are located in 2 demographically different areas of Beirut. The students enrolled in these universities are presumed to be different in culture and vision.

Choosing the students in our sample allowed us to have a direct contact with the individuals. Also, through the support of classroom instructors, we were able to give a small briefing concerning the definition of entrepreneurship and to explain the purpose of our study.

Finally, the fact that the questionnaire had to be filled out in the university classes made the students feel that they are carrying out a serious activity and contributed in receiving results that can be relied upon, to an acceptable extent.

4.2 QUESTIONNAIRE DEVELOPMENT

4.2.1 Questionnaire Design

The survey instrument was designed in English. Sentences were carefully chosen to be comprehensible and clear. Most of the questions were designed in a five-point Likert scale; respondents were asked to indicate how true each statement was of themselves (from not at all true of myself, to absolutely true of myself). In a second set of statements, respondents were asked to indicate the level of importance of each statement

(from of no importance at all, to of utmost importance). In a third set of statements, respondents were requested to indicate the extent to which they perceived that each statement affected their decision to start a business (From not at all, to a full extent).

In the remaining questions (i.e. socio demographics), students were asked to check the square corresponding to the right answer or to fill in the space and specify their choice according to their personal views.

The questionnaire was composed of 80 items, distributed on a total of 6 pages and was divided into 4 sections: Individual dimension, organizational dimension, environmental dimension, and the intention to start a business dimension.

The questionnaire was built to take between 10 to 15 minutes to be filled in. The last page was not mandatory; not all the students had to fill it in, because it was dedicated only to those who had plans to start a business. For practical reasons, this page was put at the end.

Putting the individual and environmental dimensions questions prior to the questions related to the intention to start a business, allowed us to find out the characteristics and perceptions of the students who had no intention to start a business. Putting the questions in the opposite order would have given the possibility for those students not to continue filling in the questionnaire.

Due to the unfortunate war in Lebanon (July and August of 2006), the universities were closed at the time when the questionnaire was prepared. So, we designed it in such a way that it could be filled in easily through the e-mail without having to use any special program. All that the students had to do was to mark the square that best matched their answer for each item, or fill in the space where applicable.

4.2.2 Measurement Scales

Our primary objective in the current study was to develop a reliable and valid measure of entrepreneurial intention. Such a measure can be used to identify students who have an aim that guides action towards starting a business. These individuals would be quite distinct from those who would rather prefer to remain employed. Specifically, we explored whether steady personal dispositions or whether perceptions of contextual founding conditions have an impact on the intention to found one's own business.

Since entrepreneurial intent is the ultimate dependent construct in the model, considerable attention was turned to the design of the intention-scale. Similar to the operationalization used by Autio, the respondents were asked to rate the likeliness to start a business in the foreseeable future after graduation (Autio et al., 1997). Also, they were asked to rate the likeliness to be employed and pursue a career in an organization.

In order to find out why respondents preferred to found a business or be employed by someone, they were asked about the most important factor that prevents them or motivates them to start their own business, and if applicable to specify their career plans.

Concerning the demographic data, the survey included items inquiring about the subjects' gender, age range, university, level and field of studies, current situation and work experience. Name and telephone number were added as optional items; they might serve as future references in case a study will be carried out to investigate the relationship between intentionality and actual entrepreneurial behavior. One person can have a strong intention but still be weak on commitment.

Under the individual dimension section, we used the Jackson Personality Inventory Manual (JPI) to measure innovativeness and propensity for risk taking. This manual defines innovativeness as a tendency to be creative in thought and action (Jackson, 1994). A high score on the JPI innovativeness scale indicates a preference for

novel solutions to problems and an appreciation for original ideas. For our study, three items were adapted from this scale.

Concerning the risk construct, various studies have supported the validity of the JPI as a measure of generalized risk-taking (Jackson, Hourany and Vidmar, 1972). Acceptable internal consistencies have been reported for this instrument. For the purpose of this research, two items have been selected.

Autonomy, competition and pay off or valuation of money were measured using the conviction and attitude indices used by Per Davidson from Jönköping International Business School (JIBS), Sweden. We have chosen two questions for each construct like, "I usually trust my own judgment and do not care much about what others say or think" for autonomy, and "I enjoy working in situations involving competition with others" for competition, and "I firmly believe money can solve all my problems" for valuation of money.

To measure the proactive personality construct, we referred to the proactive personality scale prepared and revised by Bateman and Crant (1993), from which we chose two items. The prototypic proactive personality as they conceived it is one that is relatively unconstrained by situational forces and that effects environmental change. Other people, who would not be so classified, are relatively passive. Based on the conceptualization of proactive behavior, they initially generated 47 items from which they selected the 27 that they believed were most representative of the construct. After they have tested the scale, only 17 items were chosen for their study.

The need for achievement was measured by a subset of items taken from the EPPS manual (Edwards, 1959). One's response to these items reflected an active or passive attitude toward decision making and personal goal setting.

Independence and status were assessed using Varimax Rotated Reasons leading to start-up (Scheinberg and MacMillan, 1988). The seven factors that emerged from the

analyses completed explained 61.8% of the variance in the data. For our study, two items were chosen per construct.

We used two items from the Budner scale of tolerance – intolerance of Ambiguity (Budner, 1962) to test the ambiguity tolerance. This scale represents a homogeneous dimension of self-report; it measures the willingness of an individual to deal with uncertainty.

A modified Rotter I-E scale was used in this study to measure internal locus of control (Rotter, 1966). This scale is designed to measure the respondent's perceived ability to influence events in his or her own life. Two items were adapted for our purpose.

The measurement of goal setting was conducted according to the results of over 100 goal-settings experiments reviewed by Locke and Latham (1990). Tests have showed that there is a positive linear relationship between goal level and performance level, and the triadic mechanism of effort, persistence and attention operate automatically once there is commitment to the goal. Hence, the 2 items in our questionnaire were built to reflect these findings.

The Framingham Type A scale was used to measure Type A behavior (Haynes, Levin, Scotch, Feinleib and Kannel, 1978). This scale has significantly predicted the incidence of coronary heart disease. It has also been related to self-report of emotional liability, daily stress, tension anxiety and anger. In our study, 2 of the 10 scale items were used.

The independent variable of self-efficacy was measured by one question designed to assess an individual's self confidence in his or her ability to perform the tasks and activities necessary to become an entrepreneur.

Under the organizational dimension, only 3 factors articulated in 4 items were measured because at this stage of the process the respondent is at the intentional stage.

Hence, the organization is not yet formed. Therefore, there are no organizational factors per se; instead, there is a perception of what is intended to be done.

The four items that were investigated were: 1- Type of venture planned in order to determine if the venture planned is a high profits venture or a venture with growth potential or at the limit a non-profit organization. 2- The industry in which the respondent would invest and the type of product or service that would be provided. 3- Whether any or both of the respondent's parents own their own full time business while the students were growing up and to which extent the parents' support had an effect on the students' entrepreneurial career. 4- Whether any of the respondent's relatives or friends owns their full time business and to which extent the relatives' or friends support (Wealth, social connections, experience, etc...) had an effect on the student decision to start a business.

In order to assess the environmental dimension, our questionnaire contained items derived mainly from the literature on politico-economic factors associated with interest in starting a business. The review in question was conducted by Begley, Tan and Schoch (2005). The list of items was supplemented by items that arose in discussions with professors, colleagues and experts in the field. The student was asked to indicate the extent to which he/she perceived each of the factors listed down, affected his/her decision to start a business; the student was also asked to base the answers on normal conditions and not on temporary circumstances (i.e. war, natural disasters, etc...).

4.3 PROCEDURES OF DATA COLLECTION

4.3.1 Questionnaire Pre-Test

We have tested the efficiency of the questionnaire through an exploratory study involving 10 Business and 6 Engineering students selected randomly. The results revealed few discrepancies among the questions and some difficulties:

- Wrong interpretation of a number of questions. The wording of few sentences created confusion that was noticed in the inconsistent students' answers.
- Some words were difficult.
- Time taken to fill-up the questionnaire exceeded 15 minutes with most of the students. The questionnaire was too long and the questions necessitated time to be thought out.
- Seven pages are too long for the students; some of them even counted the pages several times while filling-up the questionnaire. The number of pages seemed to be relevant. Filling-up many pages would be much less effective for the students who get bored easily.

Subsequently and after asking the students concerning the difficulties they encountered while filling-up the questionnaire, the following measures were carried out:

- A number of questions were rephrased using a simpler version.
- The difficult words were substituted with easier ones.
- The questionnaire was shortened. A full page was cancelled without decreasing the efficiency of the questionnaire.
- A brief explanation concerning the entrepreneurship definition, the aim of the study and the importance of the questionnaire was presented to the students prior to filling-up the questionnaire.

These attempts showed later on during the survey that the average time that the students took to fill-in the questionnaire was reduced to 10 minutes.

During this stage and to the request of the thesis directors, we had to discuss the content of the questionnaire before the final version was ready to be handed out. The directors wanted to make sure the questions are coherent, if they serve the purpose they were made for and if they measure what they are supposed to measure. Few modifications were suggested and some changes were required; therefore, the questionnaire was amended accordingly.

4.3.2 Data Collection

Once the final version of the questionnaire was ready to be handed out, the war erupted in Lebanon and the universities closed their doors.

In order to benefit during this period, another means was found to reach the students. Due to the non-availability of a computer at the time to modify the questionnaire in such a way that it could be completed through e-mail, it had to done manually.

Next, we called a large number of business administration and engineering students in order to get their e-mail addresses. We obtained an acceptable list of addresses, so we drafted an introduction letter with which we attached the questionnaire and we sent the package through the e-mail. Unfortunately the response rate was very poor; only 5% of the list returned back a completed questionnaire. We wrote them again, but with no success. There was no way but to wait until the end of the war which coincided with the beginning of the fall semester when classes resumed. That was when we started to hand out the questionnaire in the universities.

An introduction letter explaining the purpose of the study was forwarded to the faculties' deans in order to have the permission to enter the classes and distribute the questionnaire. Each class was briefed concerning the definition of entrepreneurship, the aim of the questionnaire and what we were trying to measure. Students were asked to be as thorough as possible due to the seriousness of the matter. Students were made understood that the research is a part of an MBA course whose results may be used to take corrective actions.

Upon the collection of the completed questionnaires, a quick review was carried out in order to make sure there were no missing answers. If an uncompleted questionnaire was detected later on, the involved student was contacted by telephone in order to fill-up the unanswered items. In a few cases there were no telephone numbers and the students omitted more than one question a full page for instance was not completed; in the latter case the questionnaire was dropped.

315 fully completed questionnaires were gathered from both universities. Analysis and interpretation of results will be conducted in the following chapters.

4.4 DIFFICULTIES

We mention below a number of minor difficulties encountered while collecting the data:

- The dean of the Engineering school at Notre Dame University was not very enthusiastic in giving the authorization to collect questionnaires in the Engineering classes; he thought that some answers would reflect on the reputation of the Engineering faculty. We had to justify ourselves and explain that the questionnaire is designed to measure the intention among the students to start a business, it was not meant to measure the capacity of the faculty. On

the contrary, the university might benefit from the students' answers to modify their curriculum or include business / entrepreneurship courses.

- Some students were reluctant in filling-up the questionnaire; they were probably worried due to war related reasons, concerning the fact that these questionnaires might end up in the wrong hands.

- A large number of classrooms had to be visited .When you visit consecutively 2 different business classes (i.e. accounting and marketing) of 20 students each, you might end up with only 15 completed questionnaires, because there are a number of students taking both courses).

- Few professors requested an authorization from the university officials that allowed using the questionnaire results outside the university.

Having completed the data collection, we will proceed in the next chapter with the statistical analyses and the discussion of the results.

CHAPTER V

ANALYSES AND RESULTS

In this paper we are attempting to determine the impact of the individual, organizational and environmental characteristics on formulating an intention among Lebanese engineering and business students to start-up a business in the future. This in turn will permit us, based on the findings, to draw the profile of the students that are predisposed to be entrepreneurs sometime in the years to come.

Also, through the above, we will be able to identify if the level of entrepreneurial intention varies between males and females, between Engineering and Business students or across different universities or due to other factors.

Finally, we will be able to find out what the most important barrier or the strongest motivating factor to start a business in Lebanon is and what the students' suggestions to help them better prepare to become entrepreneurs are.

In 5.1, a descriptive analysis will be conducted on our variables that will permit us to extract the characteristics of our sample in terms of frequency, percentage, mean and standard deviation.

In 5.2, we will carry out a number of bivariate analyses among the independent variables to check if the results can be generalized on the whole population.

In 5.3, a factor analysis and a principal component analysis will be run onto our variables in order to identify groups or clusters of variables and to reduce our data set to a more manageable size, without loosing much of the information.

In 5.4, we will attempt to find the linear combination of the variables that correlate maximally with the outcome variable (regression analysis) with the objective to construct our find model and verify our hypotheses.

In 5.5, we will exhibit few illustrative graphs that are statistically significant. These are graphs for variables with a mixed design. In other words, they are graphs that include a dependent variable and the interaction of two independent variables.

5.1 DESCRIPTIVE ANALYSIS

5.1.1 Individual Characteristics

Table 5.1

Socio-Demographic Variables of the Lebanese Engineering and Business Students

Name	Given		Not given	
%	64.1		35.9	
Gender	Male		Female	
%	71.7		28.3	
Age	Less than 22	22-35	More than 35	
%	43.8	56.2	0	
University	NDU		BAU	
%	60.6		39.4	
Level	Undergraduate		Graduate	
%	78.1		21.9	
Field of studies	Business		Engineering	
%	59.7		40.3	
Current situation	Not working	Working part time	Working full time	
%	58.7	23.8	17.5	
Work experience	None	1-3 years	More than 3 years	
%	44.4	39.7	15.9	
Position	Managerial	Supervisory	Employee	Not specified
%	16.8	14.6	24.1	44.1

Table 5.1 represents the statistics related to the socio-demographic variables such as age, gender, university attended to, academic level reached, field of studies chosen, employment status, accumulated work experience and the position filled in, if any.

35.9 % of the respondents preferred not to give their names; it is a high percentage given the type of questionnaire, but understandable considering the Lebanese conservative culture.

The gender variable percentages revealed that in our sample 28.3 % of the students enrolled in NDU and BAU are females, whilst 71.7 % are males.

Under the age group variable, three of the respondents marked "more than 35". Therefore, according to the box and whiskers plot which detected the 3 responses as extremes, we decided to cancel them. Only two ranges were considered: "less than 22" and "22-35". 43.8 % of the students were, in the first bracket and 56.2 %, in the second.

Our sample contained 60.6 % of the students from Notre Dame University and 39.4 % from Beirut Arabic University; 78.1 % of them in the undergraduate level and 21.9 % in the graduate level; 59.7 % in the business school and 40.3 % in the engineering school.

A total of 41.3 % of the students work part time or full time .This is a relatively high percentage among university students. It is probably due to the high expenses of university courses compared to the average income of a Lebanese family.

55.4 % of the students had work experience. In consequence, these students had an idea of the employment world and were relatively reliable with respect to their choice of whether they prefer to be employed or rather they would like to have their own business in the future.

The interpretation of the 44.1 % of the students that did not specify the working position is that these students did not work at all. Among the working students 56.17 % had a managerial or supervisory position and 43.83 % had an employee position.

Table 5.2

Preparedness of the Lebanese Engineering and Business Students for an Entrepreneurial Career

		Not at All	Small Extent	Moderate Extent	Large Extent	Fully Prepared	Total
Preparedness of	count	5	27	113	41	0	186
Business Students	%	2.7	14.5	60.8	22	0	100
Preparedness of	count	26	71	31	1	0	129
Engineering Students	%	20.2	55	24	0.8	0	100

In regard to the preparedness of students by the universities for an entrepreneurial career, 60.8 % of Business students thought that they were prepared to a moderate extent, 22 % to a large extent and none was fully prepared. This proportion decreases for the Engineering students; 24 % to a moderate extent, 0.8 % to a large extent and none was fully prepared. Obviously, Business schools prepare their students better then Engineering schools but there are things to improve in both fields (Table 5.2).

5.1.2 Organizational Characteristics

Table 5.3

Type of Business Variables

		High Profitability	Growth Potential	Not for Profit	Inherited Business	Total
Type of Venture Planned	count	89	131	2	22	244
	%	36.5	53.7	0.8	9	100

		Services	Agriculture	Manufacturing	High Tech	Other	Total
Type of Industry	count	106	3	49	46	25	229
	%	46.3	1.3	21.4	20.1	10.9	100

		Restaurants	Construction	Cars	Computer	Total
Product / Service	count	11	21	9	7	99
	%	11.2	21.2	9.1	7.1	100

Although we did not expect that the above variables displayed in Table 5.3 would have an important effect on the students decision of whether or not they will start a business in the future, we have included them in our questionnaire in order to have an idea on what type of venture or what type of industry the students were planning to be involved in, and if they had a product / service in their mind.

The calculation of the frequencies and percentages in Tables 5.3, 5.4, and 5.5 was computed considering the total number of students who have answered the questions related to these items. The page of the questionnaire that included these questions was

dedicated only to the students who had the intention to start a business. Also, few students did not fill-up some of these questions.

As we noticed, there are not many students interested in non-profit organizations (only 0.8 %), 9 % of the students will probably inherit the business and the rest marked ventures with high profitability (36.5 %) or ventures with growth potential (53.7 %).

A very large proportion of the students preferred organizations that would offer services (46.3 %). It made sense in a country like Lebanon, in which the economy is based on the services. Unfortunately, only few marked agriculture (1.3 %); as more people are moving towards the big cities, the interest in agriculture is declining.

The main products / services chosen by the students were: Construction (21.2 %), restaurants (11.2 %), cars (9.1 %), computers (7.1 %), HVAC (6.1 %), consultancy, transportation and advertising each around 5 %, tourism, decoration, and banking each around 4 %, insurance and clothing each around 3 % maintenance, education and hotels each around 2 %, human resources and real estate each 1 %.

Table 5.4

Organizational Variables: Role Models

		Yes	No	Total
Family own business	count	140	104	244
	%	57.4	42.6	100
		Yes	**No**	**Total**
Relatives / Friends own business	count	181	63	244
	%	74.2	25.8	100

Among the students who had the intention to start a business 57.4 % had a member or more in their family that had run a business while students were growing up;

74.2 % had relatives or friends owning a business. It seems that the presence of a role model around had an effect on students' decision to have their own business in the future (Table 5.4).

Table 5.5

Organizational Variables: Reference Group Support

	Not at All	To a Small Extent	To a Moderate Extent	To a Large Extent	To a Full Extent	Total
Family Support						
Count	19	24	66	101	34	244
Percentage	7.8	9.8	27.1	41.4	13.9	100
Mean	3.44					
Std. Deviation	1.093					
Friends and Relatives Support						
Count	27	63	81	64	9	244
Percentage	11.1	25.8	33.2	26.2	3.7	100
Mean	2.86					
Std. Deviation	1.046					

A total of 82.4 % among university students believed that the support of their family (wealth, social connections, know-how, experience etc...) is needed to start their own business; and this need ranged from a moderate extent to a full extent. The mean reached 3.44 with a standard deviation of 1.093 (Table 5.5). Also, this table exhibits that 63.1 % of the students thought that the support of their relatives / friends ranged from a moderate extent to a large extent, with a mean of 2.86 and a standard deviation of 1.046.

Taking into account that the Lebanese are considered as collectivists; the family and the entourage is a priority in their daily life; therefore, their answers to the question of reference group support were expected.

5.1.3 Environmental Characteristics

Having checked the frequencies presented in Tables 5.6 to 5.9, it was obvious that 66.3% of the students considered that political stability factor affected, to a full extent, their decision to start a business, while factors such as availability of commercial loans from banks/credit agencies or local market opportunities were rated by only 36% of the students as factors that affect their decision to start a business to a full extent.

As expected, political stability is an issue of high priority in Lebanon. The citizens have not enjoyed long periods of stability. It seems that prosperity and security do not last. The minute the country starts to get back to a normal status, an incident occurs and threatens its stability.

The country swings between war status and a fragile peace. That reflects on the moral of individuals and especially the younger ones.

As a direct effect to the instability, two issues emanate: 1- The non-availability of commercial loans (in risky countries, banks are reluctant to grant loans) and 2- The shrinkage of local market opportunities (the spending of consumers decline) and this is confirmed in our results.

The factors that affect to a large extent the students' decision to start a business are according to our sample: Enforcement of law and contracts, bureaucracy, procedures and approvals by the Chamber of Commerce and infrastructure. All of these factors are government services and unfortunately this is the situation in Lebanon. All the governmental efforts are exhausted by internal disputes over the country's identity; consequently, other issues become less important.

Social connections were rated highly as well. This is normal in a country where most of the business transactions are based on personal relationships.

The remaining factors were moderately rated by the students and according to them, these factors affect, to a moderate or to a little extent, their decision in starting a business in the future.

Table 5.6

Political Characteristics

	Not at All	Small Extent	Moderate Extent	Large Extent	Full Extent	Total
Taxation Rates						
Percentage	0.6	1.6	30.5	45.4	21.9	100
Mean	2.14					
Std Deviation	0.792					
Enforcement of law and Contracts						
Percentage		1	18.7	60.3	20	100
Mean	3.99					
Std Deviation	0.653					
Bureaucracy						
Percentage		0.6	23.5	50.8	25.1	100
Mean	4					
Std Deviation	0.716					
Procedures and Approvals in the Chamber of Commerce						
Percentage		4.1	31.1	48.9	15.9	100
Mean	3.77					
Std Deviation	0.763					
Political Stability						
Percentage	0.3	0.3	2.5	30.5	66.3	100
Mean	4.62					
Std Deviation	0.587					
Legal System and Democratic Rules						
Percentage	1.6	9.2	40	33	16.2	100
Mean	3.53					
Std Deviation	0.925					

Table 5.7

Economic Characteristics

	Not at All	Small Extent	Moderate Extent	Large Extent	Full Extent	Total
Interest Rates						
Percentage		4.8	25.7	45.7	23.8	100
Mean	3.89					
Std Deviation	0.821					
Overseas Market Opportunities						
Percentage	2.2	15.9	31.4	31.7	18.7	100
Mean	3.49					
Std Deviation	1.039					
Competitive Conditions						
Percentage	1.3	14	25.7	36.8	22.2	100
Mean	3.65					
Std Deviation	1.016					
Turbulence in the Industry						
Percentage	3.8	17.8	32.4	29.8	16.2	100
Mean	3.37					
Std Deviation	1.070					
Supporting Infrastructure						
Percentage		0.6	13	49.2	37.1	
Mean	4.23					
Std Deviation	0.690					

Table 5.8

Social Characteristics

	Not at All	Small Extent	Moderate Extent	Large Extent	Full Extent	Total
Social Connections						
Percentage	_	1	22.9	49.8	26.3	100
Mean	4.02					
Std Deviation	0.729					
Local Market Opportunities						
Percentage	0.3	3.2	14.3	47	35.2	100
Mean	4.14					
Std Deviation	0.796					

Table 5.9

Resources Characteristics

	Not at All	Small Extent	Moderate Extent	Large Extent	Full Extent	Total
Availability of Commercial Loans from Banks / Credit Agencies						
Percentage	0.3	2.2	17.5	44.4	35.6	100
Mean	4.13					
Std Deviation	0.796					
Availability of Funds from Family Relatives / Friends						
Percentage	2.2	12.1	30.5	34.6	20.6	100
Mean	3.59					
Std Deviation	1.016					
Consultancy Agencies						
Percentage	7	34.9	42.9	11.7	3.5	100
Mean	2.70					
Std Deviation	0.893					
Skilled Labour						
Percentage	1	14	30.5	34.3	20.3	100
Mean	3.59					
Std Deviation	0.994					

5.1.4 Intention to Start a Business

It was interesting to include some items in the questionnaire under the paragraph of the intention to start a business such as: What is the most important barrier that you might encounter if you plan to start your company? What is the most important factor that would motivate you to start your own business? And if you intend to start a business, how soon after graduation do you expect to start? Table 5.10 illustrates the answers.

We display this table below first then we display the statistics of the questions related directly to our dependent variable (the intention to start a business among Lebanese engineering and business students).

Table 5.10

Miscellaneous Variables

Most Important Barrier	Availability of Funds	Government Policies	Economic Policies	Country Risk	Lack of Motivation	Other	Total
Count	141	14	15	122	17	4	313
%	45	4.5	4.8	39	1.3	1.3	100

Most Important Factor that Motivates	Profitability	Social Power	Personal Growth	Job Security	My Own Boss	Freedom	Other	Total
Count	92	21	84	17	54	41	4	313
%	29.4	6.7	26.8	5.4	17.3	13.1	1.3	100

How Soon after Graduation	N/A	Immediately	1-2 Yrs	3-5 Yrs	> 5 Yrs	Total
Count	7	29	55	106	116	313
%	2.2	9.3	17.6	33.9	37.1	100

As per our respondents, the most important barriers that they might encounter if they plan to start a business are, respectively, availability of funds and country risk which confirm the results found under the environmental characteristics. These 2 factors are linked together. People cannot expect from banks to grant facilities easily in a country where the risk of instability is so high.

The most important factors that would motivate the students to start their own business were profitability and personal growth. A Typical businessman's attitude: "It is very important to grow and mature but I keep an eye on my pocket as well..."

37.1% of the respondents would wait more than five years before initiating a business action, 33.9% would wait between 3 and 5 years. It is a little bit less than what was expected; students should rather gain a large experience before starting an entrepreneurial activity.

Table 5.11 lists the results of the 3 questions designed to measure the intention to start a business. The first question is a reverse-phrased question and the other 2 questions are similar in the content but different in the wording.

Roughly, 40% of the students plan to be employed in the future versus 60% who intend to have their own business.

Table 5.11

Intention to Start a Business Factor

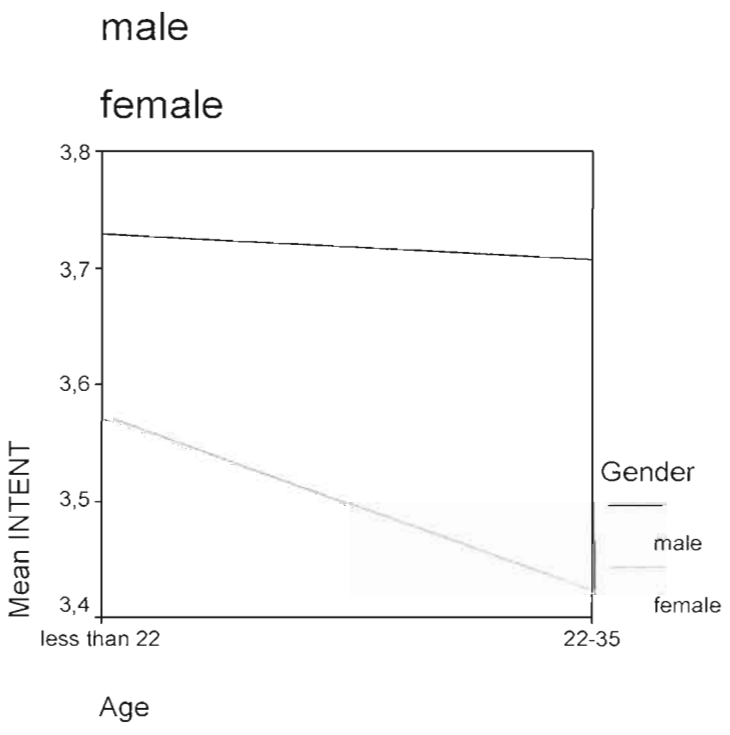
	Very Unlikely	Unlikely	Uncertain	Likely	Most Likely	Total
Be an employee with no plans to start a business						
Percentage	3.5	11.2	39.3	28.1	17.9	100
Mean	3.46					
Std. Deviation	1.022					
How likely is it that you will start your own business?						
Percentage	0.6	8.3	27.8	34.9	23.3	100
Mean	3.77					
Std. Deviation	0.922					
Describe your intention to start a business						
Percentage	0.6	5.1	34.2	40.3	19.8	100
Mean	3.73					
Std. Deviation	0.857					

The 2 similar questions scored very close results, 63.2% higher than the average for the first question and 60.1% higher than the average for the second question. We believe the above figures reflect, to a high degree, what was expected.

5.1.5 Illustrative Statistics

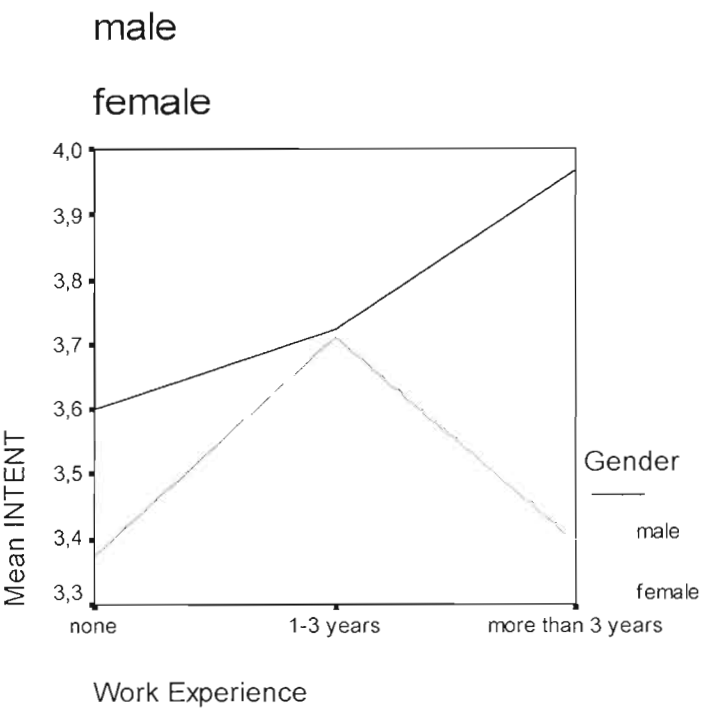
In this section, we propose to draw few explicit statistical graphs. These graphs will include 3 variables: One independent variable and two interacting dependent variables.

Figure 5.1 Dependent Variable: Intention to Start a Business. Independent Variables: Gender, Age.



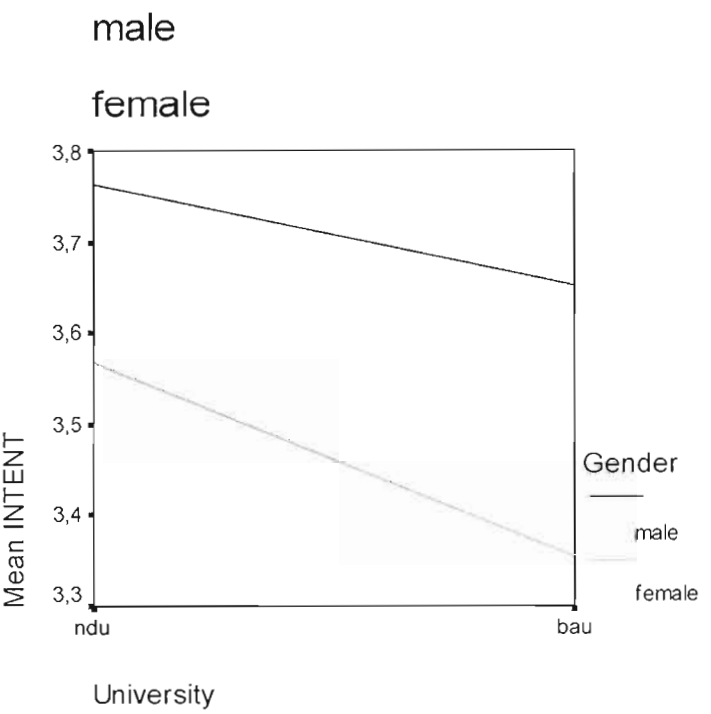
We notice in Figure 5.1 that the two lines representing male and female intentions to start a business decline with age. Unlike the male line, the female line decreases substantially with age. The male intention might stabilize even at a certain age. As the majority of women have kids between the ages of 22-35, we can expect their intention to be low during this period.

Figure 5.2 Dependent Variable: Intention to Start a Business. Independent Variables: Gender, Work Experience.



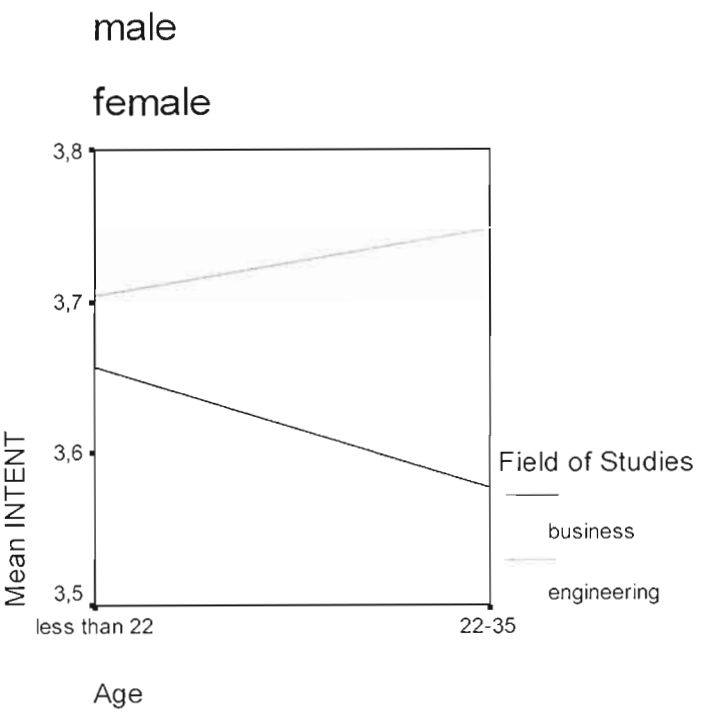
In Figure 5.2 and according to our sample, men seem to be encouraged after few years of experience to undertake entrepreneurial career, while women, after few years of working experience, do not prefer to open their own business.

Figure 5.3 Dependent Variable: Intention to Start a Business. Independent Variables: Gender, University.



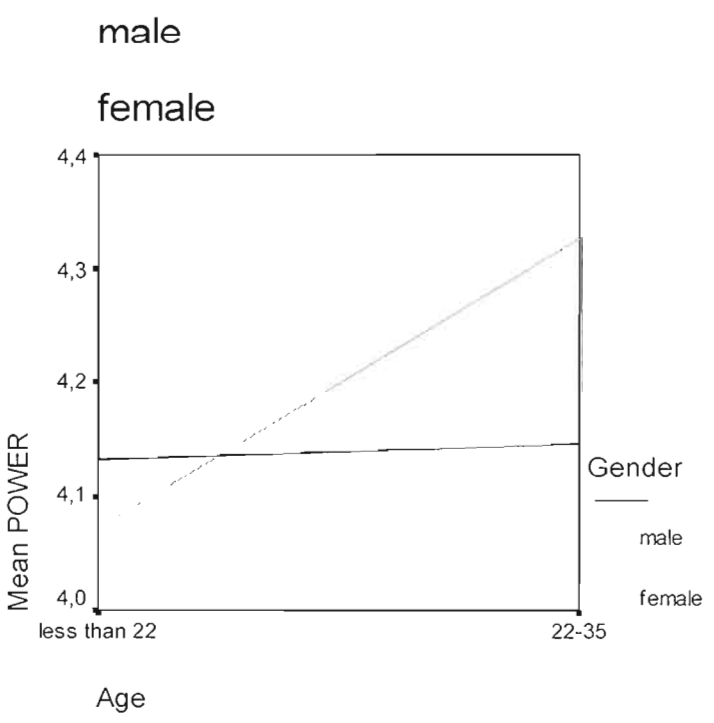
The graph in Figure 5.3 is interesting; the intention of both men and women is higher among the Lebanese students who attend NDU University than those who attend BAU University. The NDU students are more interested to have their own business in the future. Also, as shown previously, the men's intention is generally higher than the women's.

Figure 5.4 Dependent Variable: Intention to Start a Business. Independent Variables: Field of Studies, Age.



We expect that Business students would be keener into entrepreneuring and being in the business arena, but the graph of Figure 5.4 shows that our Engineer respondents have a higher intention than our Business respondents. Unlike the Business student's intention, the Engineer's intention increases with age.

Figure 5.5 **Dependent Variable: Power.**
Independent Variables: Gender, Age.



As displayed in Figure 5.5, the women in our sample seem to be more eager for power than men. With age, the tendency to acquire power among women increases while it decreases among men.

5.2 BIVARIATE ANALYSIS

5.2.1 Cross tabulation and Chi-Square

Some cross-tabulation within the socio-demographic variables is shown below. These tables display extra information that is worth being considered (i.e. the proportion of males and females among university students that are enrolled in Business and Engineering schools, percentage of Business and Engineering students in each university etc...).

Table 5.12

Gender and University Cross-Tabulation

		University		Total	Pearson Chi-square	Asymp. Sig (2-Sided)
		NDU	BAU			
Gender	Male					
	Count	132	93	225		
	% Within University	69.8	75	71.9		
	Female					
	Count	57	31	88	0.986	0.321
	% Within University	30.2	25	28.1		
	Total					
	Count	189	124	313		
	% Within University	100	100	100		

From a total of 124 students enrolled in BAU, 93 (75 %) are males and 31 (25 %) are females, while 132 (69.8 %) males and 57 (30.2 %) females are enrolled in NDU. The average number of males is higher in BAU whereas the average number of females is higher in NDU.

Although we believe that the region where BAU is located is more masculine oriented than the region where NDU is located, the Chi-Square significance level was 0.321 > 0.05, therefore the results cannot be generalized.

Table 5.13

Gender and Field of Studies Cross-Tabulation

		Field of Studies		Total	Pearson Chi-Square	Asymp. Sig (2-Sided)
		Business	Engineering			
Gender	**Male**					
	Count	117	108	225		
	% Within Field of Studies	63.2	84.4	71.9		
	Female					
	Count	68	20	88	16.716	0.000
	% Within Field of Studies	36.8	15.6	28.1		
	Total					
	Count	185	128	313		
	% Within Field of Studies	100	100	100		

We found more female students in the Business classes (36.8 %) than in the Engineering classes (15.6 %). This result has been confirmed by a very high significance level of Chi-Square (p=0.000). These percentages are increasing everyday as more and more female students enroll in university courses; the pace remains slower in underdeveloped countries.

Table 5.14 displays one of the differences between the 2 regions where the 2 universities are situated. The families of the students that attend university A seem on average wealthier than the families of the students who attend university B; 64% of university A's students do not work. The significance of this table was assessed by the Chi-Square test statistic (p=0.04 < 0.05), which confirmed the obtained results.

Table 5.14

Current Situation and University Cross-Tabulation

		University		Total	Pearson Chi-Square	Asymp. Sig (2-Sided)
		A	B			
Current Situation	Not working					
	Count	121	65	186		
	% Within University	64	52.4	59.4		
	Working					
	Count	68	59	127	4.18	0.04
	% Within University	36	47.6	40.6		
	Total					
	Count	189	124	313		
	% Within University	100	100	100		

5.2.2 One Way ANOVA Test

Table 5.15

Preparedness of Business Students by Universities

			Preparedness of Business Students					
			Not at All	Small Extent	Moderate Extent	Large Extent	Full Extent	Total
University	NDU	count	3	21	68	17	0	109
		%	2.7	19.3	62.4	15.6	0	100
	BAU	count	2	6	45	24	0	77
		%	2.6	7.8	58.4	31.2	0	100
F-ratio			6.909					
Significance			0.009					

It appeared from Table 5.15 that business students enrolled in BAU believe that they were prepared for an entrepreneurial career better than the Business students enrolled in NDU. 31.2 % of BAU students marked that they were prepared to a large extent, while only 15.6% of NDU Business students thought that they were prepared to a large extent. The observed significance value is less than 0.05. We can say there is a significant effect between the preparedness of Business students and the university being attended.

Table 5.16

Preparedness of Engineering Students by Universities

			Preparedness of Engineering Students					
			Not at All	Small Extent	Moderate Extent	Large Extent	Full Extent	Total
University	NDU	count	16	49	17	0	0	109
		%	19.5	59.8	20.7	0	0	100
	BAU	count	10	22	14	1	0	47
		%	21.3	46.8	29.8	2.1	0	100
F-ratio			1.031					
Significance			0.312					

It is obvious from table 5.16 that engineering students in both universities did not think they were being prepared properly for an entrepreneurial career. Most scores are below average. Unlike Table 5.15, the significance level is higher than 0.05. Therefore, our results are not confirmed and we cannot generalize them on the population.

5.3 FACTOR ANALYSIS AND PRINCIPAL COMPONENT ANALYSIS

Based on the literature review, we built a theoretical construct. Under this construct, many variables such as innovativeness, autonomy, competition, independence, tolerance for ambiguity, type A behavior etc... could not be measured directly.

However, different aspects of these variables could be measured. Two to three questions were chosen from a set of ten to fifteen that were proven to be reliable as a set to test these variables.

By taking a part of the set of questions, we ran the risk of not measuring the whole aspect of the variables, but we avoided the inconvenience of a questionnaire made up of 300 to 400 questions. Such long questionnaire cannot be used for this research.

In spite of the measure taken to minimize the number of questions, we still ended up with a relatively long questionnaire, and a relatively large set of variables. Therefore, it was important at that point to know whether some questions and their respective answers measure a particular variable each or whether they interact to measure the same variable. We needed to ensure that the questions asked relate to the construct that we intended to measure. So, we submitted each set of variables to a factor analysis and principal component analysis, a technique for identifying groups or clusters of variables. At the same time we were able to reduce the data set to a more manageable size, while retaining the maximum of the original information.

By reducing a data set from a group of interrelated variables into a smaller set of factors, factor analysis achieves the optimum by explaining the largest amount of common variance in a correlation matrix using the smallest number of explanatory concepts.

Also, we know that multicollinearity can be a problem in multiple regressions, and factor analysis can be used to solve this problem by combining variables that are collinear.

In order to apply factor analysis, Tabachnick and Fidell agree that "it is comforting to have at least 300 cases for factor analysis"(Tabachnick and Fidell, 2001). Our sample size reaches 315, so we are on the safe side.

In section 5.3.1, a factor analysis will be applied on the variables related to the individual traits. Our objective is to verify statistically the empirical weight of each variable and the strength of each theoretical grouping of variables.

In sections 5.3.2 and 5.3.3, a similar analysis will be conducted consecutively on the variables related to the environment and on the components related to the intention to start a business. There is no necessity to run factor analysis on the organizational variables due to their limited number and their independence.

5.3.1 Individual Variables

The traits theorists in psychology use factor analysis to measure personality traits (i.e. Eysenck, 1953). Other theorists use it for different applications. Similarly, we will run factor analysis onto our individual variables and try to extract the meaningful and representative dimensions prior to proceeding with the analysis.

In order to save space in the factor analysis table of individual traits, we have abbreviated the statements into a short format (see the list in Table 5.17). For example, the statement: People ask me for help in creative activities is substituted by innovativeness 1.

Table 5.17

Abbreviation List of Individual Variables

Innovativeness	**1**	People often ask me for help in creative activities
Innovativeness	**2**	I usually continue doing a new job in exactly the way it was taught to me
Innovativeness	**3**	I prefer work that requires original thinking
Autonomy	**1**	When I am in a group I am happy to let someone else take the lead
Autonomy	**2**	I usually trust my own judgment and do not care much about what others say or think
Competition	**1**	I enjoy working in situations involving competition with others
Competition	**2**	It annoys me when other people perform better than I do
Proactive Personality	**1**	I am always looking for better ways to do things
Proactive Personality	**2**	I love to challenge the status quo
Risk Taking	**1**	I would not hesitate putting my money in a new business that could fail
Risk Taking	**2**	I am willing to commit to a course of action which may result in rewards or penalties
Valuation of Money	**1**	I firmly believe money can solve all my problems
Valuation of Money	**2**	I feel that money is the only thing I can really count on
Locus of Control	**1**	My life is determined by my own actions
Locus of Control	**2**	When I get what I want, it is usually because I worked hard for it
Goal Setting	**1**	My performance level increases whenever the goal is difficult to achieve
Goal Setting	**2**	Whenever I am committed to a goal I am determined to reach it
Type A Behavior	**1**	I am usually pressed for time
Type A Behavior	**2**	I get hyper when I have to wait for something
Self Efficacy		I am self-confident in my ability to perform the tasks and activities necessary to become an entrepreneur
Need for Achievement	**1**	To do one's best
Need for Achievement	**2**	To accomplish tasks requiring skills and effort
Independence	**1**	To have considerable freedom to adapt my own approach to work
Independence	**2**	To control my own time
Power	**1**	To achieve a higher position for myself in society
Power	**2**	To have more influence in my community
Tolerance of Ambiguity	**1**	A job is good when what is to be done and how it is to be done are always clear
Tolerance of Ambiguity	**2**	It is more fun to tackle a complicated problem than to solve a simple one

The first thing we looked at when conducting the factor analysis was the inter-correlation between variables. Of course we expected the variables to correlate with each other since our test questions measure the same underlying dimensions. The variables that do not correlate with any other variables should be excluded. We need variables that correlate fairly well but not perfectly.

Although mild multicollinearity is not a problem, it is important to avoid extreme multicollinearity ($R > 0.8$) and singularity (variables that are perfectly correlated).

Looking at the R-matrix produced using SPSS we found that the Pearson correlation coefficients ranged between 0.01 and 0.481, so there is no problem of multicollinearity.

Scanning the one-tailed significance table of these coefficients, we noticed that there were 3 variables (autonomy 2) and (valuation of money 1) and (valuation of money 2) for which the majority of values are greater than 0.05; therefore, they "were eliminated from the analysis.

Multicollinearity can be detected also by looking at the determinant of the R-matrix. This determinant should be greater than 0.00001 and it is listed at the bottom of the correlation matrix. For our data its value is 0.05, which is greater than the necessary value of 0.00001. Therefore, we can be confident that multicollinearity is not a problem for this data.

If we wish to generalize the results of our analysis beyond the sample collected, we should look for interrelations and ensure that variables have roughly normal distributions. Histograms were drawn to identify if our variables are normally distributed and one-sample Kolnogorove-Smirnov test was conducted to support the histograms test. Results were positive and therefore, the outcome of the analysis could be generalized on the population.

The reliability of factor analysis depends also on sample size. We can use the Kaiser-Meyer-Olkin measure to test the sampling adequacy. In our sample, the KMO statistic for all the variables displayed 0.785 which falls into the range of being good (Hutcheson and Sofroniou, 1999, pp. 224-225), so we should be confident that factor analysis is appropriate for this data.

Bartlett's Test of Sphericity tests if the original correlation matrix is an identity matrix (all correlation coefficients equal zero). We want this test to be significant ($p <$

0.05). In our test $p < 0.001$ and the R-matrix is not an identity matrix, therefore, there are relationships between the variables and factor analysis is appropriate.

After conducting a series of factor analyses and reliability measures on different combination of variables, we decided out of 28 to eliminate 14 variables.

The deleted variables are:

Innovativeness 2
Autonomy 1
Autonomy 2
Competition 2
Valuation of Money 1
Valuation of money 2
Locus of control 1
Goal setting 1
Self efficacies
Need for achievement 1
Independence 1
Independence 2
Tolerance for ambiguity 1
Tolerance for ambiguity 2

The 14 remaining variables will constitute the data bank from which the extraction of factors will be carried out. We know that there are as many factors as there are variables. To determine the importance of a particular factor, we look at the magnitude of the associated eigenvalue. By default, SPSS uses Kaiser's criterion of retaining factors (eigenvalue greater than 1). We kept the eigenvalue unchanged and we conducted the analysis. Four factors with eigenvalues greater than 1 have been identified, as seen in Table 5.18.

These factors explain relatively large amounts of variance (a cumulative 56.476% in our data), whereas subsequent factors explain only small amounts of variance.

Table 5.18

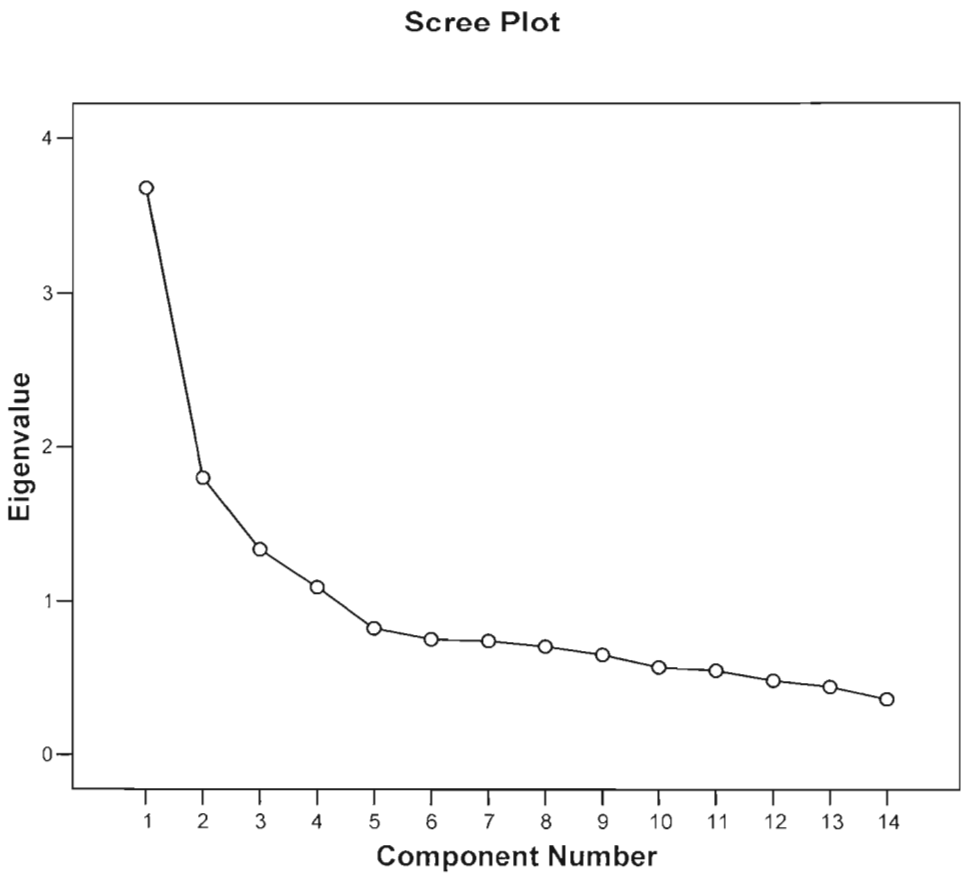
Factor Analysis of Individual Traits

Components	1 Achievement	2 Innovative Attitude	3 Power	4 Type A Behavior
Goal Setting 2	0.686			
Competition 1	0.663			
Proactivity 1	0.657			
Locus of Control 2	0.655			
Need for Achievement 2	0.569			
Proactivity 2	0.549			
Risk 2		0.749		
Risk 1		0.744		
Innovativeness 1		0.665		
Innovativeness 3		0.567		
Power 2			0.847	
Power 1			0.779	
Type A Behavior 1				0.815
Type A Behavior 2				0.795
Measurements				
Total variance of Factors %	56.476			
KMO	0.785			
Bartlett's Test of Sphericity (Sig)	0.000			
Determinant of R-Matrix	0.050			
Variance explained by factors %	18.420	14.133	13.178	10.745
Reliability Test: Cronbach's Alpha	0.747	0.646	0.722	0.609

As a guide, we can use also the scree plot which we asked the SPSS to produce. It showed a thunderbolt indicating the point of inflexion (factor Number 4 in our data

before the curve reached a stable plateau as in Figure 5.6. This result confirmed our findings above.

Figure 5.6 Scree Plot: Individual Variables



Once the factors have been extracted, it is possible to calculate to what degree variables load onto these factors (in other words calculate the loading of the variable on each factor). Usually, most variables have high loadings on the most important factor and small loadings on all other factors. A technique called factor rotation is used to discriminate between factors; it maximizes the loading of each variable on one of the extracted factors whilst minimizing the loading on all other factors. The process makes it

much clearer which variables relate to which factors. See in Table 5.18 the factor loadings for each variable.

Orthogonal rotation (Varimax) was adopted for this procedure. Factor loadings less than 0.49 have been dropped because we asked for these loadings to be suppressed. The variables are listed in the order of size of their factor loadings.

The next step was to look at the content of questions that load onto the same factor to try to identify common themes. The questions that load highly on factor 1 all seem to relate to achievement, therefore, we labeled this factor "Achievement".

The questions that load highly on factor 2 appear to be associated with the attitude of an individual who has creativity and is willing to take risks, so we named it "Innovative Attitude". The questions that load highly on factors 3 and 4 were originally designed to test power and type A behavior, so these factors kept the same labels.

In order to test our results, oblique rotation was conducted and two matrices were produced, the pattern matrix and the structure matrix. The same factors have emerged with a slight difference in the factor loadings and the factor order. So, the factors can be adopted for the continuation of the analyses.

Reliability Analysis

As mentioned earlier in this chapter, multiple tests of reliability have been conducted prior to carry out the final factor analysis because, as we already know, the deletion of an item at this stage would affect the factors' structure. Therefore, it is recommended to delete it from the questionnaire if an item scored low in reliability analysis. For example, the item Independence (formed out of 2 questions, Independence 1 and Independence 2) has been deleted at this stage because it scored only 0.4113, and a final factor analysis has been run in order to obtain the best factor structure.

Reliability means that a scale should consistently reflect the construct it is measuring. In statistical terms, the usual way to look at reliability is based on the idea that individual items (or sets of items) should produce results consistent with the overall questionnaire. Cronbach came up with a measure that is equivalent to splitting data in two and computing the correlation coefficient for each split (Cronbach, 1951). The average of these values is equivalent to Cronbach's alpha which is the most common measure of reliability.

Usually, a value of 0.7-0.8 is an acceptable value for Cronbach's alpha; lower values indicate an unreliable scale. Kline notes that although a value of 0.8 is appropriate to test items like intelligence, for ability tests a cut-off point of 0.7 is permitted (Kline, 1999). He continues to suggest that when dealing with psychological constructs, values below 0.7 can realistically be expected.

According to Cronbach, if several factors exist within a questionnaire then the formula should be applied separately to items relating to the different factors (Cronbach, 1951).

The reverse-phrased items that were included in order to reduce response bias did not matter in factor analysis. However, in reliability analysis these reverse-scored items do make a difference. So, we had to reverse the way in which the reverse-phrased items were scored before we conducted the reliability analysis. (Example of a reverse-phrased question: When I am in a group I am happy to let someone else take the lead).

After conducting the reliability analysis on each subscale individually, we obtained the results shown in Table 5.19.

Table 5.19

Summary and Item-Total Statistics

Factors	Mean	Standard Deviation	Alpha if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha
Achievement					
Goal Setting 2	4.27	0.717	0.729	0.415	0.747
Competition 1	3.99	0.863	0.713	0.477	
Proactivity 1	4.36	0.750	0.688	0.578	
Locus of Control 2	4.16	0.857	0.718	0.461	
Need for Achievement 2	3.91	0.834	0.704	0.507	
Proactivity 2	3.95	0.903	0.712	0.484	
Innovative Attitude					
Risk 2	3.32	1.007	0.533	0.488	0.646
Risk 1	2.51	1.135	0.567	0.447	
Innovativeness 1	3.29	0.942	0.574	0.434	
Innovativeness 3	3.78	0.874	0.628	0.347	
Power					
Power 2	3.93	0.945	_	0.574	0.722
Power 1	4.39	0.784	_	0.574	
Type A Behavior					
Type A Behavior 1	3.63	0.964	_	0.440	0.609
Type A Behavior 2	3.72	1.057	_	0.440	

The above table also represents a summary of the 4 extracted factors and an item statistics; it provides a value of Cronbach's alpha for each factor on our scale and tells us what the value of alpha would be if an item was deleted. As we notice clearly, none of the values in the column (Alpha if Item Deleted) is greater than the overall alpha therefore, none of the items would improve reliability if they were deleted. This indicates that all items are positively contributing to the overall reliability.

Looking at the column labeled Corrected Item-Total Correlation in the SPSS table, we clearly see that the values which represent the correlation between each item and the total score from the questionnaire are all greater than 0.55, which means that all items correlate with the total. So, the individual variables that will be considered in the regression analysis are achievement, innovative attitude, power and type A behavior.

5.3.2 Environmental Variables

Although factor analysis is probably most famous for being adopted by psychologists and in the measurement of personality dimensions, economists use factor analysis in the measurement of productivity, profits and workforce (Field, 2005).

On the other hand, we believe that the number of variables is quite large and the interrelation that exists among them is important. Therefore, applying factor analysis would be appropriate in order to 1- Reduce the number of variables without losing much of their content, 2- Identify groups of variables that measure the same construct and 3- Avoid singularity and multicollinearity.

We have listed below in Table 5.20 the environmental variables as per our questionnaire before the application of factor analysis.

As a first step, we made sure there was no problem of multicolleanirity. The highest correlation value between the above variables reached 0.448 (very far from an $R>0.8$); perfect correlation existed only in the diagonal line (between the same variables), which is normal.

Another cross-check was done to test the multicollinearity. We looked at the determinant of the R-matrix; for our data, its value amounted to 0.244, which is much greater than the necessary value of 0.00001. Therefore, multicollinearity does not exist among our data.

Table 5.20

Environmental Variables Prior to Applying Factor Analysis

Taxation rates
Enforcement of law and contracts
Bureaucracy
Procedures and Approvals in the chamber of commerce
Political stability
Legal system and democratic rules
Availability of commercial loans from banks/credit agencies
Availability of funds from family/relatives/friends
Interest rates
Consultancy agencies
Social connections
Local market opportunities
Overseas market opportunities
Competitive conditions
Turbulence in the industry
Skilled labor
Supporting infrastructure (transportation, communication, water, elect...)

The one-tailed significance table from SPSS showed that for the variable "taxation rates", the majority of values exceeded 0.05. Therefore, this variable was excluded from the analysis. Anyway, this particular variable was considered as a reverse-phrased item. Before reversing its score, the mean indicated the value of 2.13, which showed that participants scored low on this item and obviously it did not take a big part of their consideration when they were deciding whether to start a business in the future or not. The other variables scored values according to the acceptable criteria, and hence, they were kept to undergo the following steps of the analysis.

In order to test if the results of the analysis could be generalized on the population, histograms were drawn and Kolnogorov-Smirnov test was conducted. We made sure that scores had a normal distribution.

To test the sampling adequacy, Kaiser suggests using the Kaiser-Meyer-Olkin measure (KMO) (Kaiser, 1970). Values below 0.5 are not acceptable. With a sample of 300, we shouldn't worry about the sample size. As for sampling adequacy, SPSS produced the KMO and Bartlett's table which showed a KMO value of 0.701. We looked also at the anti-image correlation matrix which produces the KMO values for individual variables. The values ranged between 0.599 and 0.727, which is a very satisfactory result.

The KMO and Bartlett's table showed a $p<0.001$; that means that the correlation matrix does not resemble an identity matrix, where R approaches zero and therefore, there is a relationship between the variables.

After the few attempts that were made to run factor and reliability analyses, we came up to the conclusion of deleting 7 out of the 17 variables proposed in our initial model.

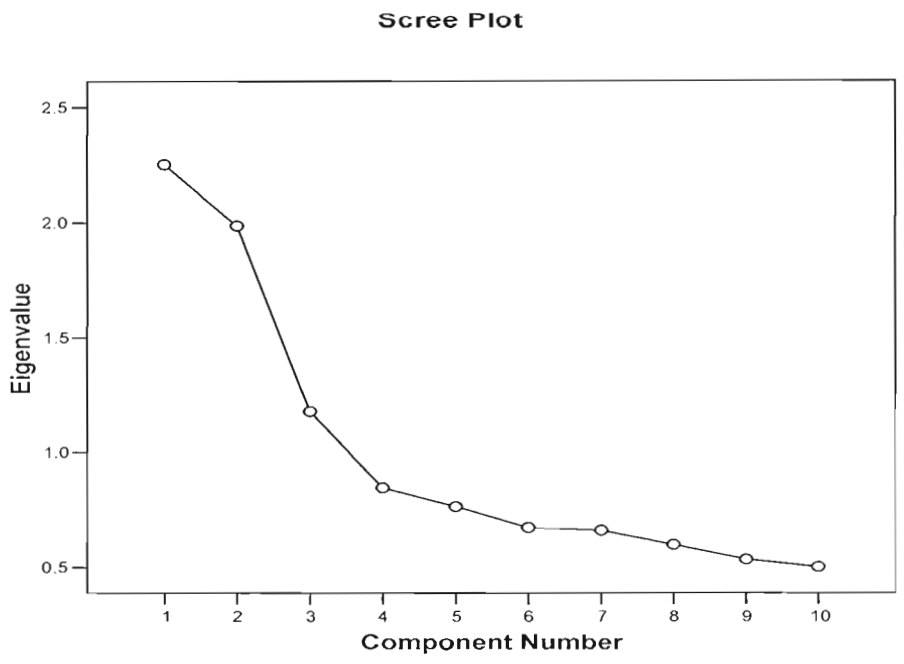
The deleted variables are:

Taxation rates
Political stability
Legal system and democratic rules
Consultancy agencies
Social connections
Local market opportunities
Supporting infrastructure

Factor extraction has been completed with the 10 remaining variables. Three factors with eigenvalue greater than 1 have been identified, as seen in Table 5.21. The factors are listed according to the magnitude of the associated eigenvalue. These factors explain the largest amounts of variance (a cumulative 54.195%), whereas the remaining factors explain a small amount of variance.

The scree plot produced by SPSS in Figure 5.7 confirms our results as it shows a thunderbolt before the curve reached a stable plateau. This point of inflexion is factor number 3 in our data.

Figure 5.7 Scree Plot: Environmental Variables



Following the extraction of factors and in order to discriminate between the factors while, maximizing the loading of each variable on one of the extracted factors and minimizing the loading on all other factors, a factor rotation has been applied onto our data. The matrix of factor loadings for each variable is shown in Table 5.21. Factors loading less than 0.4 have been dropped.

Analyzing the content of the questions that load high onto the same factor, we were able to point out three different themes. The questions that load highly on factor 1 appear to be associated with market conditions, the procedures of the chamber of commerce, the bureaucracy and the enforcement of laws seem to come under the

umbrella of government policies, the availability of loans and their relative interest rates can be considered as resources.

An oblique rotation has been applied as well, to confirm the factor extraction.

Table 5.21

Factor Analysis of Environmental Variables

Components	1 Market Conditions	2 Government policies	3 Resources
Competitive Conditions	0.749		
Skilled Labor	0.720		
Turbulence in the Industry	0.717		
Overseas Market Conditions	0.705		
Procedures and Approvals in the Chamber of Commerce		0.804	
Bureaucracy		0.690	
Enforcement of Law and Contracts		0.623	
Availability of Commercial Loans from Banks / Credit Agencies			0.768
Availability of Funds from Family / Relatives/Friends			0.693
Interest Rates			0.652
Measurements			
Total Variance of Factors %	54.195		
KMO	0.701		
Bartlett's Test of Sphericity (Sig)	0.000		
Determinant of R-Matrix	0.244		
Variance Explained by Factors %	21.431	16.773	15.991
Reliability Test: Cronbach's Alpha	0.705	0.554	0.552

Reliability Analysis

Initially, when we ran our first factor analysis five main factors were identified. Unfortunately, two factors showed a low alpha (0.451 and 0.334), therefore, both factors were deleted. On the other hand, two items, consultancy agencies and supporting infrastructure scored low on corrected item-total correlation (0.199 and 0.196). So, they were eliminated out from their respective factor. The final summary and item-total statistics are shown in Table 5.22.

Table 5.22
Summary and Item-Total Statistics

Factors	Mean	Standard Deviation	Alpha if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha
Market Conditions					
Competitive Condition	3.65	1.016	0.610	0.541	0.705
Skilled Labor	3.59	0.994	0.661	0.458	
Turbulence in the Industry	3.37	1.070	0.660	0.463	
Overseas Market Conditions	3.49	1.039	0.635	0.501	
Government Policies					
Procedures Chamber of Commerce	3.77	0.763	0.384	0.406	0.554
Bureaucracy	4	0.716	0.469	0.354	
Enforcement of Laws	3.99	0.653	0.493	0.338	
Resources					
Availability of Loans from Banks/Agencies	4.13	0.796	0.373	0.4	0.552
Availability of Funds from Family/Relatives/Friends	3.59	1.016	0.533	0.309	
Interest Rates	3.89	0.821	0.424	0.363	

5.3.3 Intention to Start a Business

Measurement of the intention to start a business was accomplished through 3 different questions abbreviated as follows:

1- Intent 1

How likely is it that you will start a new business?

2- Intent 2

On a scale (very weak to very strong) describe your intention to start a business.

3- Intent 0

How likely is it that you will pursue a career in an organization? (Be an employee with no plans to start a business)

As you notice, the third question is a reverse-phrased question; it is included in this set of questions due to the importance attached to the measurement of the intention to start a business and to reduce the response bias. Nevertheless, the 3 questions are measuring aspects of the same underlying dimension. Therefore, a factor analysis is appropriate for this data.

The 3 subset variables are interrelated (correlation coefficient 0.572-0.714). The level of dependence between them is important but does not cause any concern for multicollinearity. The determinant of the R-matrix is 0.274, which is higher than 0.00001 and confirms the non-multicollinearity.

The one-tailed significance table displayed all values as 0.00, which did not exceed the necessary value of 0.05; therefore, all the associated variables are to be kept for the rest of the analyses.

KMO has been calculated for the multiple and individual variables. The values ranged between 0.662 and 0.777, which is considered as very good in the KMO scale.

Bartlett's test of sphericity indicated a significance level of 0.000. So, $p < 0.001$ implicates that there is a relationship between the variables.

Only one factor with eigenvalue greater than 1 was extracted, as seen in Table 5.23. This factor explains a large amount of variance (a cumulative 76.309%). Since there is only one factor, the rotation is not required.

Table 5.23

Factor Analysis of Variables Related to the Intention to Start a Business

Component	Intention to Start a Business
Intent 1	0.905
Intent 2	0.874
Intent 0	0.841
Measurements	
Total Variance of Factors %	76.309
KMO	0.708
Bartlett's Test of Sphericity (Sig)	0.000
Determinant of R-Matrix	0.274
Reliability Test: Cronbach's Alpha	0.84

Reliability Analysis

Testing the reliability of the scale that measures the intention to start a business was very vital to our study. First of all, we reversed the score of component number 3 (Intent 0) so that it would not have a negative relationship with the other components.

Otherwise, the covariances between this particular component and the other ones would be negative, and consequently Cronbach's alpha reduced.

Having reversed the score of component number 3, we then conducted the reliability analysis. The overall reliability of the scale averaged 0.84 which indicated a very good reliability. All values in the column (Alpha if item deleted) are around the value of alpha; none of the values is greater than 0.84 therefore, they can be kept in the scale.

The values in the column labeled (corrected item-total correlation) are quite high. The minimum value required is 0.3 as it represents the correlation between the individual items and the overall score from the scale.

Our scale is considered as reliable. The summary of the scale and the item-total statistics are shown in Table 5.24.

Table 5.24

Summary and Item-Total Statistics

Factors	Mean	Standard Deviation	Alpha if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha
Intention to Start a Business					
Intent 1	3.76	0.938	0.722	0.762	0.84
Intent 2	3.72	0.881	0.782	0.705	
Intent 0	3.44	1.037	0.832	0.659	

5.4 REGRESSION ANALYSIS

After applying factor analysis onto our large set of individual and environmental variables, few representative factors emerged. These factors, together with the organizational and some socio demographic variables from our study, will constitute the predictors of the outcome variable (the factor of the intention to start a business).

The equation will be in the following form:

$$Y_i = b_0 + b_1 x_1 + b_2 x_2 + \ldots b_n x_n + e_i$$

The outcome variable is predicted from a combination of variables multiplied by their respective coefficients plus a residual term e_i. We refer to this equation as the regression model in multiple regressions. We will try to find the linear combination of predictors that correlate maximally with the outcome variable.

In order to accomplish the above, we will divide the work into 4 sections. Our goal in the first three sections will be to determine the contribution of each of the 3 variables categories: The variables associated with the individual dimension, the variables related to the organizational dimension and the variables related to the environmental dimension.

The objective of the fourth section is to determine and construct the final model and to verify the research hypotheses formulated earlier in chapter III.

5.4.1 Individual Variables

In regression it is a good practice to measure predictor variables for which there are theoretical reasons for expecting them to predict an outcome, especially if past research has indicated their significance. So, based on past research and according to our

view of the model, we have, in the addition to the 4 factors extracted in the factor analysis included 8 more socio-demographic variables. We ended-up with 12 predictors: Achievement, Innovation Attitude, Type A Behavior, Power, Gender, Age, University, Level of Education, Field of Studies, Current Situation and Work Experience.

The default option in regression analysis is forced entry, but because we are carrying out an exploratory work, we decided to use the stepwise method to enter the variables and run the analysis. See Table 5.25 for results.

The correlation matrix showed the Pearson correlation coefficient between every pair of variables and the one tailed significance of each correlation. This matrix is also important to have a preliminary look for multicollinearity. There was no substantial correlation (R>0.8) between any pair of variables; the highest correlation reached was (R=0.667) between current situation and work experience variables which is expected. As a conclusion, there was no problem of collinearity among the set of variables.

R=0.54 was the value of the multiple correlation between the individual variables and the intention to start a business. R^2 = 29.2% was the amount of variation in the intention to start a business that is accounted for by the variables. The adjusted R^2 was 28%, very close to R^2, which confirmed that the model can be generalized.

The coefficients table gave us the estimates of the b-values, which indicate the individual contribution of each variable to the model. The regression equation of the individual variables looked as follows:

$$\mathbf{F\ (I) = 0.088 + 0.356\ IAT + 0.276\ TAB}$$
$$\mathbf{+ 0.176\ ACH + 0.153\ POW - 0.239\ GEN}$$

I = Intention to start a business; **IAT** = Innovation Attitude; **TAB** = Type A Behavior; **ACH** = Achievement; **POW** = Power and **GEN** = Gender.

Most of the significance values were below 0.01; only one value was 0.023, which is still pretty significant, and those levels confirmed the great contribution of the predictors. Outliers were tested by looking at the residuals. Two additional questions had to be deleted because their standardized residuals were greater than 3.

The assumption of no multicollinearity concluded earlier from the correlation matrix was confirmed by looking at the VIF and tolerance statistics. The average VIF was not substantially greater than 1, therefore the regression is not biased (Bowerman and O'Connel, 1990). Tolerance was much greater than 0.2 which meant no collinearity problem (Menard, 1995).

The end results revealed few points that are worth being mentioned:

The intention to start a business among Lebanese engineering and business students is much more affected by the personality characteristics, attitude and behavior than by the socio-demographic variables.

Socio-demographic variables were included in the study due to their significance as predictors to the intention to start a business in general; but because at this early stage of a student life, variables such as age and work experience would not have big influence on the student's decision for the future, therefore, they did not have the greatest effect.

Also, variables like university or level were not expected to have a substantial influence, but nevertheless they were included in the model to be measured no matter what the outcome would be.

On the other hand, one item only from the socio-demographic variables figured in the equation, gender. As we know, Lebanon is a masculine society and individual achievement and rewards are characteristics of masculine societies. Men are expected and encouraged more than women to step into the entrepreneuring world. So, there was no surprise gender would be among the influential predictors.

All the factors related to the individual characteristics appeared in the regression equation, which means they are solid predictors. Whether these factors are extracted from a set of heterogeneous questions (questions that measure different aspects of the variable) or from a set of homogeneous questions (questions that measure the same aspects of the variable), they are considered as strong predictors.

The innovation attitude factor had the highest Pearson correlation value with the intention to start a business and consequently the highest coefficient in the regression equation. This factor is formed of 2 dimensions: innovativeness and risk taking. If we compare these 2 dimensions with the definition of entrepreneurship, we find an important similarity.

Table 5.25

Regression on Individual Variables

Model		B Coefficients	Significance	Variance Explained	Collinearity Statistics	
					Tolerance	VIF
Constant		0.088				
1	Innovation Attitude	0.356	0.000	0.144	0.990	1.010
2	Type A Behaviour	0.276	0.000	0.079	1.000	1.000
3	Achievement	0.176	0.000	0.029	0.995	1.005
4	Power	0.163	0.001	0.028	1.000	1.000
5	Gender	-0.239	0.023	0.012	0.985	1.015
	R Square			0.292		
	Adjusted R Square			0.28		
	Anova Sig.			0.000		
	Multiple R			0.54		
Excluded Variables						
Age		-0.048	0.319		0.992	1.008
University		-0.073	0.169		0.820	1.220
Level of Education		-0.061	0.208		0.983	1.017
Field of Studies		0.044	0.378		0.915	1.093
Current Situation		0.032	0.519		0.936	1.068
Work Experience		0.088	0.072		0.962	1.039

Entrepreneurship defined in a simple format is about having an innovative or creative business idea and willing to take the risk to put it into motion. So, there is no surprise that this factor scored the greatest prediction power.

5.4.2 Organizational Variables

As we already have explained, the organizational variables are limited to 4, considering the fact that the organization does not exist upon the filling of a questionnaire. Therefore, only variables covering the background of the student (i.e. having a role model while growing up) or incitement to start a business provoked by reference group support are included in our model. The other variables such as industry or product type were dealt with in the cross-tabulation section 5.2 and disregarded in the regression analysis, as they are not considered direct predictors.

The regression analysis was carried out involving 4 organizational variables abbreviated as follows:

- Parents Owning a Business, while Student are Growing up: **POB**
- Friends or Relatives Owning a Business: **FRO**
- Family Support: **FAS**
- Friends and Relatives Support: **FRS**

A forced entry was used at the first trial, then, a hierarchical method was applied in the second attempt to obtain the results shown in Table 5.26.

Table 5.26

Regression on Organizational Variables

Model		B Coefficients	Significance	Variance Explained	Collinearity Statistics	
					Tolerance	VIF
Constant		0.420				
1	Family Support	0.131	0.043	0.027	0.901	1.110
			R Square	0.027		
			Adjusted R Square	0.018		
			Anova Sig.	0.043		
			Multiple R	0.164		
Excluded Variables						
Friends and Relatives Support		-0.110	0.198	0.015	0.985	1.016
Fr. or Rel. Owning Business		0.485	0.574	0.009	0.889	1.124
Parents Owning Business		—	—	—	—	—

The individual correlation coefficients were relatively low in the correlation matrix (highest R=0.459). Obviously, the problem of multicollinearity was cancelled out.

The multiple correlations between the organizational variables and the intention to stat a business was 0.164, which is considered a low correlation.

$R^2 = 0.027$ was the variance in the intention to start a business that is accounted for by the regression of the organizational variables. The adjusted R^2 that tells us how much variance would be accounted for if this model had been derived from the population was 0.018.

The outcome regression equation was:

$$\mathbf{F\ (I) = 0.420 + 0.131\ FAS}$$

The system has excluded the 3 remaining variables among which POB has been completely deleted; their significance values were higher than 0.05 and so, they cannot be generalized. No outliers have been detected at this stage.

The collinearity statistics have proved the absence of multicollinearity. The average VIF did not exceed substantially the value of 1, and the tolerance was much higher than 0.2.

We have expected a higher relationship between the organizational variables and the intention to start a business, because we believe that family and friends occupy a large space in our life as Lebanese; they are a source of inspiration and support during important events or whenever a major decision is to be taken.

Unexpectedly, we obtained low correlation values between most of these variables and the outcome. Also, their significance did not reach the threshold that permits us to generalize the results on the population. Only family support scored an acceptable correlation value with a significant b coefficient ($b = 0.131$ and $sig = 0.043 < 0.05$).

We have reasons to doubt that the sample of students did not provide the necessary variety of individuals or maybe the 2 universities are not a true representative of the whole population. There is the possibility also that Lebanese students, amidst the inspiration and support of their reference group and regardless of the presence of a role model in their life, are not influenced when deciding their future career.

5.4.3 Environmental Variables

Among 17 different environmental variables SPSS has extracted three factors that will be abbreviated in this section as follows:

- Market Conditions : **MCN**
- Government Policies : **GVP**
- Resources : **RES**

The above variables will be subject to a regression analysis in order to find out 1. How much of the variability in the intention to start a business among Lebanese engineering and business students is accounted for by the environmental predictors? And 2. How well our model generalizes?

Given that we have no previous research regarding the effect of environmental forces, we are justified in requesting a stepwise method as a mode of entry into the SPSS.

Having applied the regression analysis onto our variables, we obtained the results shown in table 5.27.

Having evaluated the Pearson correlation coefficient matrix, values varied between 0.05 and 0.132 and significance levels varied between 0.01 and 0.187. Correlation values were not impressive and one variable at least cannot be generalized ($p>0.05$).

Multiple R registered 0.132 and R^2 the amount of variation in the outcome that is accounted for by the above variables was 0.017.

Multicollinearity problem was ruled out. The highest correlation among predictor variables was 0.498.

The adjusted R^2 was 0.014. It told us how far we can generalize our findings outside of the sample.

The regression equation looked like a simple linear regression with one predictor variable.

F (I) = 0.020 + 0.129 MCN

The system has selected one variable: The market conditions (MCN) as a model to represent the environmental variables.

Absence of multicollinearity was reconfirmed through the tolerance and VIF measurement under the collinearity statistics (Average VIF = 1 and Tolerance > 0.2).

It seems that the (MCN) factor which includes many variables (Competitive Conditions, Skilled Labor, Turbulence in the Industry, Overseas Market Conditions) is considered as important when a student is deciding his future career. The students' interest is more focused on the local and overseas market characteristics, the industry and the availability of skilled labor than on the government policies or the acquirement of loans with a low interest.

Mind you the variation accounted for by (MCN) factor did not exceed 1.7%, but nevertheless its coefficient significance reached 0.019.

Nevertheless, it is understandable that there is a focus on the marketing since there is no use of having a great product that you cannot market. International marketing takes a good part of interest from entrepreneurs nowadays due to the limited local market capacity.

Lebanon relies a great deal on services, therefore, there is no surprise to us that skilled labor is an important factor especially that sectors like tourism, banking,

education, healthcare and small manufacturing shops (i.e. jewelry), necessitate badly skilled labor.

Table 5.27

Regression on Environmental Variables

Model		B Coefficient	Significance	Variance Explained	Collinearity Statistics	
					Tolerance	VIF
Constant		0.020				
1	Market Conditions	0.129	0.019	0.017	1.000	1.000
R Square				0.017		
Adjusted R Square				0.014		
Anova Sig.				0.019		
Multiple R				0.132		
Excluded Variables						
Government Policies		-0.098	0.082	0.010	1.000	1.000
Resources		0.050	0.374	0.003	1.000	1.000

5.4.4 Final Model

At the first stage, we ran a regression where all predictors were included in the model and examined the result to identify which predictors contribute the most in predicting the outcome. Once we have determined the important variables, we reran the analysis including only the important variables and used the coefficient parameters to define our final model.

The results are shown in Table 5.28 and the outcome regression equation is:

$$\mathbf{F(I) = -0.305 + 0.365\ IAT + 0.267\ TAB + 0.168\ POW + 0.166\ ACH + 0.115\ FAS - 0.205\ GEN}$$

I = Intention to start a business; **IAT** = Innovation Attitude; **TAB** = Type A Behavior; **POW** = Power; **ACH** = Achievement; **FAS** = Family Support; **GEN** = Gender.

Six factors were determined to be important. They explain 29.6% of the total variation of the intention to start a business.

The four first items of the equation are individual variables. They explain 26.4% of the total variation of the intention to start a business from which 13.6% are scored by the innovation attitude alone in Table 5.28. We can then confirm hypothesis H 1b:

H 1b: The individual characteristics of the Lebanese engineering and business students are positively related to their intention to start-up a business

In other words, we can say that the more creative, the more the risk-taker, the more the achiever, the more inclined to type A behavior and the more eager to power the student is, the more his/her inclination would be to start a business.

The fifth item in the equation is Family Support which is an organizational variable. It explains 2.3% of the total variation of the intention to start a business, seen in Table 5.28. That would lead us to conclude that H 2b was partially confirmed.

H 2b: The organizational factors have a positive influence on the Lebanese engineering and business students' decision to start a business.

Table 5.28

Summary of Regression Analysis

Model		B Coefficients	Significance	Variance Explained	Collinearity Statistics	
					Tolerance	VIF
Constant		-0.305				
1	Innovation Attitude	0.365	0.000	0.136	0.971	1.030
2	Type A Behavior	0.267	0.000	0.075	0.999	1.001
3	Power	0.168	0.000	0.028	0.995	1.005
4	Achievement	0.166	0.000	0.025	0.992	1.008
5	Family Support	0.115	0.009	0.023	0.972	1.029
6	Gender	-0.205	0.051	0.009	0.984	1.016
R Square				0.295		
Adjusted R Square				0.282		
Anova Sig.				0.000		

Even after including all the predictors and rerunning the regression analysis, the Family Support variable remained a strong predictor and appeared in the final regression equation. The student relies on the support of his/her immediate family; at least he/she counts on their backing if a new business will be launched. The new business will reflect a certain image on the whole family; it would concern directly or indirectly all family members, if one of them undertakes a business move.

We still believe that the other variables (i.e. Role Model or Friends and Relatives Support) should have been more significant, but due to the reasons explained in paragraph 5.4.2, they probably were not part of the final regression equation.

The sixth item of the equation is a socio-demographic variable, gender. None of the environmental variables was significant enough to figure in the final regression equation. So, H 3b was rejected and H 3a confirmed.

H 3a: There is no connection between the environmental dimension and the propensity among the Lebanese engineering and business students to enterprise.

The environmental variables are country specific most of the time. No two countries are similar as far as environmental forces are concerned, because the context, the structure, the culture, the circumstances and the other political, economical and social factors can be different.

In the Lebanese context, it appears that the entrepreneur learned to take business decisions regardless of the environmental conditions; after many wars and political conflicts, survival worries pushed him/her to create or improvise ways and means on how to make a living. So consequently, chances are strong that this way of life is transmitted to the new generations.

Even when we ran regression analysis on only the environmental variables, the students' attention was concentrated on outside forces rather than internal conditions.

On the other hand, one socio-demographic variable (gender) was significant enough to be part of the final equation. Some professions are still considered in Lebanon as male oriented and launching a new business seems to be one of them, as per our model.

Now that we are through with the analyses, we will proceed in the next chapter, with the conclusion and limitations of the study then, we will propose some recommendations.

CHAPTER VI

CONCLUSION AND RECOMMANDATIONS

Through this paper we attempted to determine the impact of the individual, organizational and environmental characteristics on formulating an intention among Lebanese engineering and business students to start-up a business in the future. Also, we have tried to identify the profile of the students who are predisposed to be entrepreneurs at a later stage of their life.

In addition, we have examined whether the level of entrepreneurial orientation varies among gender, between students enrolled in two different fields or across two demographically distinct universities. Besides, other related factors and points of interest have been investigated in an attempt to have a global view of our main focus: The intention to launch a venture.

The literature review has permitted us to gather a large number of variables that have the potential to create a stimulus among university students that lead them to develop a readiness to venture. Based on Shapero's model of entrepreneurial event (SEE) and Ajzen's theory of planned behavior (TPB) we have explained how the entrepreneurial intention model took place then, and we have built our conceptual framework and formulated the respective hypotheses. Having done that, a sample of the population has been identified and among multiple reliable measurement scales in the field, a comprehensive questionnaire has been developed to cover all the variables proven to be relevant to our research.

At a later time we have distributed the questionnaires, collected the data and recorded the answers into the SPSS.

The descriptive analysis revealed the characteristics of the student (as a potential entrepreneur), the organization (type, product, industry etc...), and the environment (push-pull factors). In addition, graphs with a mixed design (showing multiple interacting variables) have been shown. Cross tabulation, Chi-square and one way ANOVA tests have been carried out as inference tests to determine whether results extracted from our sample can be generalized onto the population.

Due to the large variety of variables obtained from the literature review, a factor analysis and a principal component analysis have been carried out to identify groups or clusters of variables that are highly correlated. This step enabled us to reduce the data set and avoid variables that measure the same aspects of the construct.

Four factors emerged from the analysis of individual variables: two factors built by the SPSS and 2 factors drawn from our questionnaire in the format they were originally designed. Three factors were obtained from the environmental variables and one from the components of the dependent variable.

The above factors, the socio demographic and the organizational variables were subject to regression analysis in order to construct the final model of our research. We believe that we were able to answer most of the questions raised at the introductory chapter. Two out of three hypotheses were confirmed and the final model includes 6 variables (five individual and one organizational).

6.1 RESULTS AND DISCUSSION

The Lebanese student who is to be a future entrepreneur appears to be mostly a male, creative to a certain point and willing to assume the risks encountered in the creation of a new business; he/she also possesses many characteristics, he/she is competitive and proactive and he/she works on achieving his/her goals. The potential Lebanese entrepreneur is eager to have power; it is demonstrated in his/her continuous search to have a high position in society and to have more influence in his/her community. He/she also seems to be characterized as a person with type A behavior; he/she is always pressed for time and prefers things done yesterday and he/she is so hyper that he / she cannot stand in a queue.

The results showed also that the Lebanese student relies more or less on his/her family's support; he/she considers his/her family as first-line defense in his/her life and they are always there for him/her especially whenever a major step is to take place such as starting a business.

The environmental variables appear not to be taken in high consideration upon a decision process among the students. Although there is a discontent from government policies in matters like enforcement of law and the long procedures and approvals in the chamber of commerce, the two items, political stability and security take a bigger space in people complaints. The environmental variables did not have enough prediction power to be included in our final model amid their high correlation with the intention to start a business.

As a matter of fact, Lebanon was able to overcome a civil war that lasted 16 years and another destructive war that demolished most of its infrastructure; the country broke into pieces but the economy survived. The Lebanese citizen has learned lessons and acquired abilities of how to survive relying on his/her own capacity and strength. He/she learned also how to take business decisions regardless of the environmental forces and

not relying on governmental support or subsidies. He/she was forced to find ways and means around the difficult circumstances. The Lebanese entrepreneurial characteristics play a big role in keeping the economy running and the country operational.

Other results have emerged as well; around less then half of the students have to work part time or full time. University courses appear to be expensive and sometimes not affordable.

Although the engineers proved they had an important readiness to venture, they did not think they were prepared enough. Universities are requested to include entrepreneurship courses to their curriculum a step taken a long time ago in the developed countries.

Females are still not recognized as business initiators in Lebanon. They are not encouraged and supported by their immediate family to step into such an adventure. Promotion and education could help the spreading of the idea that women can be successful as well in initiating a business adventure.

There were not an important number of students interested in Non-Profit Organizations. According to their views, the reason why one undertakes a business adventure is either to make money or to grow. There is still little room in the Lebanese society for such an issue as corporate social responsibility. Again such an important matter should be part of the universities curriculum.

Half of the students chose services as an answer to the type of industry they would like be involved in. Manufacturing and high-tech were not as important; government intervention is required to provide long term and low interest loans to such ventures.

The most important barriers, as per our respondents, were non availability of funds and country risk. There are not governmental plans accompanied with special loans to support the high expenses of a new business starting phase.

The two factors that would motivate students the most are profitability and personal growth. We hope that with time and education other motivators would be included. We have noticed that there is still a big confusion in the interpretation of entrepreneurship and the definitions of entrepreneur and businessman. It should be emphasized that copying an idea and making money out of it is good and it helps the economical circuit flow, but being an entrepreneur would enhance the economy, improve the society and take the country to a higher level.

In summary, our model is based on the individual characteristics and the family support; environmental forces have very little effect. It seems that we live in a country where one is on his own. It is this entrepreneurial tendency among its citizens that keeps the country alive.

Finally, if the Lebanese entrepreneurial tendency is enhanced with education (university role) and governmental support (policies, loans and stability); Lebanon would occupy a front seat among the neighboring countries.

6.2 LIMITATIONS

This research has been conducted 2 months after the destructive war of July 2006. This war affected the morale of the citizens and biased to a certain degree the students' opinion on many issues. An exploratory study completed under such circumstances might not reflect the exact situation. Therefore, while distributing the questionnaire we have asked the students to be as objective as possible.

A large number of variables were introduced in the model which necessitated a factor analysis in an attempt to reduce the data set while keeping meaningful variables and the maximum of the original information.

While conducting the reliability analysis in paragraph 5.3.2, although the two factors, government policies and resources showed a low Chronbach alpha, we decided to keep them for the rest of the analyses. They were eliminated when we ran the regression analysis.

We built our own questionnaire and have not used an already prepared one for this type of research. Our model included too many variables to be able to be covered by a questionnaire of 6 pages. Therefore, while we were concentrating on not losing any variable, we missed some aspects of these variables. For example, instead of using 10 questions that cover a variable we had to choose 2 or 3 of these questions only.

Our sample included two universities and two fields of study: engineering and business. That could have limited the representation of the sample.

Respondents might have answered in some instances what the reader wanted them to answer, but that could happen when dealing with any other sample or any other issue. When evaluating the results, a margin should be taken to fill up this gap.

As a conclusion, however, the results obtained from the study were satisfactory and we reached sound conclusions. Nevertheless, this research remains subject to the limitations mentioned above.

Studying intentions is a relatively new field in entrepreneurship and in Lebanon it is practically an unknown science. So, this research can be a starting point.

6.3 RECOMMENDATIONS

Definitely in future studies, the number of variables to be used while analyzing a similar phenomenon should be decreased in order to use the whole set of questions contained in a certain measurement scale. In this way, the researcher can be more confident concerning the observed results.

We suggest more research to be done in the field. We all have heard the expression, "the Lebanese is born an entrepreneur"; there is no other way to increase our knowledge in the field or improve the entrepreneur's skills but conducting research and locating anomalies.

An extension to this study would be to include more universities that have wider differences than the ones chosen for this study. Also, it could include respondents from fields of study other than Engineering and Business.

Another alternative would be to contact the same students in a few years from now and study the link between intention and real action.

Also, other research could aim to study the role of the universities or the responsibility of the government toward such important issues for the society and the country.

APPENDIX

RESEARCH QUESTIONNAIRE

UQAM

University of Quebec in Montreal

MBA (Research Profile)

RESEARCH QUESTIONNAIRE

"Intention to start a Business among
Lebanese Engineering and Business Students"

Directed by:

Dr. Roy Toffoli
Dr. Jocelyn Desroches

Prepared by:

Michel Raad

QUESTIONNAIRE

Section I: Individual Dimension

1- Name (Optional) : _____

2- Tel. # (Optional) : _____

3- Gender : Male ☐ Female ☐

4- Age : Less than 22 ☐ 22-35 ☐ More than 35 ☐

5- University : _____

6- Level : Undergraduate ☐ Graduate ☐

7- Field of Studies : Business ☐ Engineering ☐

8- Current Situation : Not Working ☐ Working Part Time ☐ Working Full Time ☐

9- Work Experience : None ☐ 1-3 Years ☐ More than 3 Years ☐

10- Position : Managerial ☐ Supervisory ☐ Other: Specify _____

11- Preparedness : **Mark the square that best matches your answer:**

	Not at All	Small extent	Moderate extent	Large extent	Fully prepared
(a) For Business Students Only To what extent has the business school prepared you for an entrepreneurial career.					
(b) For Engineering Students Only To what extent has the engineering school prepared you for an entrepreneurial career.					

12- With respect to the following statements, indicate how you feel that each statement is true of yourself. Please mark the square that best matches your answer.

	Not at all true	Slightly true	Half way true	Mostly true	Completely true
People often ask me for help in creative activities					
I usually continue doing a new job in exactly the way it was taught to me					
I prefer work that requires original thinking					
When I am in a group I am happy to let someone else take the lead					
I usually trust my own judgment and do not care much about what others say or think					
I enjoy working in situations involving competition with others					
It annoys me when other people perform better than I do					
I am always looking for better ways to do things					
I love to challenge the status quo					
I would not hesitate putting my money in a new business that could fail					
I am willing to commit to a course of action which may result in rewards or penalties					
I firmly believe money can solve all my problems					
I feel that money is the only thing I can really count on					
My life is determined by my own actions					
When I get what I want, it is usually because I worked hard for it					
My performance level increases whenever the goal is difficult to achieve					
Whenever I am committed to a goal I am determined to reach it					
I am usually pressed for time					
I get hyper when I have to wait for something					
I am self-confident in my ability to perform the tasks and activities necessary to become an entrepreneur					

13- Please mark the square that best matches your answer on the scale to indicate the level of importance that you attribute to each of the following:

	Of no imp.	Of little imp.	Of average imp.	Of high imp.	Of utmost imp.
To do one's best					
To accomplish tasks requiring skills and effort					
To have considerable freedom to adapt my own approach to work					

	Of no imp.	Of little imp.	Of average imp.	Of high imp.	Of utmost imp.
To control my own time					
To achieve a higher position for myself in society					
To have more influence in my community					
A job is good when what is to be done and how it is to be done are always clear					
It is more fun to tackle a complicated problem than to solve a simple one					

Section II: Environmental Dimension

14- Based on your view of normal conditions and not on special temporary circumstances (i.e. war, natural disasters etc...); please indicate the extent to which you perceive that each of the following factors affects your decision to start a business. Mark the square that best matches your answer.

	Not at all	Small extent	Moderate extent	Large extent	Full extent
Taxation rates					
Enforcement of law and contracts					
Bureaucracy					
Procedures and approvals in the chamber of commerce					
Political stability					
Legal system and democratic rules					
Availability of commercial loans from banks/credit agencies					
Availability of funds from family / relatives / friends					
Interest rates					
Consultancy agencies					
Social connections					
Local market opportunities					
Overseas market opportunities					
Competitive conditions					
Turbulence in the industry					
Skilled labor					
Supporting infrastructure (transportation, communication, water, elect...)					

Section III: Intention to Start a Business

15- How likely is it that you will pursue a career in an organization? (Be an employee with no plans to start a business).

Very unlikely	Unlikely	Uncertain	Likely	Most likely
☐	☐	☐	☐	☐

16- What is the most important barrier that you might encounter if you plan to start your own company?

☐ Availability of funds

☐ Government policies

☐ Economical policies

☐ Country risk

☐ Lack of motivation to start a business

☐ Other: Specify _____

17- How likely is it that you will start a new business?

Very unlikely	Unlikely	Uncertain	Likely	Most likely
☐	☐	☐	☐	☐

18- If you intend to start a business, how soon after graduation do you expect to start?

N/A	Immediately	1-2 years	3-5 years	More than 5 years
☐	☐	☐	☐	☐

19- What is the most important factor that would motivate you to start your own business?

☐ Profitability	☐ Personal growth	☐ Be my own boss
☐ Social power	☐ Job security	☐ Freedom
☐ Other: Specify_____		

20- On a scale (very weak to very strong) describe your intention to start a business.

Very weak	Weak	Neither weak Nor strong	Strong	Very Strong
☐	☐	☐	☐	☐

21- What kind of recommendations do you suggest to help better prepare students to become entrepreneurs?

_____

_____

_____

NB: ***The following questions are to be answered only if you intend to start a business***

Section IV: Organizational Dimension

22- ***Type of venture planned.***

☐ *Venture with high profitability (more emphasis on profit)* ☐ *A not for profit organization*

☐ *Venture with strong growth potential (more emphasis on growth)* ☐ *inherited business*

23-a ***In which industry would you invest?***

Services	*Agriculture*	*Manufacturing*	*High tech*	*Other: specify*
☐	☐	☐	☐	_____

- If Applicable

23-b *Specify the product or service:* _____

24-a ***Did any or both of your parents own their own full time business most of the time while you were growing up?***

No	*Yes*
☐	☐

24-b ***To which extent do you think that the support of your family (wealth, social connections, experience...) has an effect on your decision to start/not start a business?***

Not at all or N/A	*To a small extent*	*To a moderate extent*	*To a large extent*	*To a full extent*
☐	☐	☐	☐	☐

25-a ***Do any of your relatives or friends own their own full time business?***

No	*Yes*
☐	☐

25-b ***To which extent do you think that the support of your relatives or friends (wealth, social connections, experience...) has an effect on your decision to start/not start a business?***

Not at all or N/A	*To a small extent*	*To a moderate extent*	*To a large extent*	*To a full extent*

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